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Water Resources Data for Ohio
Water Year 1979. Volume 2
St. Lawrence River Basin

(U.S.) Geological Survey
Columbus, OH

Jun 80

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Water resources data for the 1979 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This report in three volumes contains records for water discharge at 197 gaging stations; stage and contents at 32 lakes and reservoirs; water quality at 54 gaging stations and 49 wells; and water levels at 157 observation wells. Also included are data for 58 crest-stage partial-record stations; 26 low-flow partial-record stations, and 311 coal hydrology synoptic sites. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

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U.S. DEPARTMENT OF THE INTERIOR
March 3, 1849

Water Resources Data for Ohio

Volume 2. St. Lawrence River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-79-2

WATER YEAR 1979

Prepared in cooperation with the State of Ohio
and with other agencies

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

CALENDAR FOR WATER YEAR 1979

1978

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER

S	M	T	W	T	F	S
					1	2
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24	25	26	27	28	29	30
31						

1979

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

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				1	2	3
4	5	6	7	8	9	10
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18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
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3	4	5	6	7	8	9
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24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
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19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

U.S. DEPARTMENT OF THE INTERIOR
March 3, 1849

Water Resources Data for Ohio

Volume 2. St. Lawrence River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-79-2

WATER YEAR 1979

Prepared in cooperation with the State of Ohio
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in Ohio write to
District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus, Ohio 43212

1980

PREFACE

This report was prepared by personnel of the Ohio district of the Water Resources Division of the U.S. Geological Survey under the supervision of S.M. Hindell, District Chief, and J.E. Biesecker, Regional Hydrologist, Northeastern Region. It was done in cooperation with the State of Ohio and with other agencies.

This report is one of a series issued State by State under the general direction of P. Cohen, Chief Hydrologist, U.S. Geological Survey, and S. Lang, Acting Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Ohio are in three volumes as follows:

Volume 1. Ohio River Basin
Volume 2. St. Lawrence River Basin
Volume 3. Coal Hydrology

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GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

(Letter after station name designates type of data; (b) biological, (c) chemical, (d) discharge, (e) contents and (or) elevations, (HBM) hydrologic bench mark, (m) microbiological, (NASQANO National stream-quality accounting network, (r) radiochemical, (s) sediment, (t) temperature.)

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ST.LAWRENCE RIVER BASIN

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GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

(Letter after station location designates type of data: (c) chemical, (l) water level.)

Well number	Local number	Location	Page
		CRAWFORD COUNTY	
404838082563100	CR-1	Bucyrus (l)	161
		GEAUGA COUNTY	
412518081221500	GE-3A	Southeast of Chagrin Falls (l)	162
		HANCOCK COUNTY	
405332083421700	HA-15	Southeast of Jenera (l)	163
		HARDIN COUNTY	
404648083412600	HN-2A	Southeast of Dola (l)	164
		HENRY COUNTY	
412123083574000	HY-2	Southwest of McClure (l)	165

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LORAIN COUNTY

411545082072400 LN-1 North of LaGrange (1) 166

LUCAS COUNTY

413704083362200 LU-1 Toledo (1) 167

MEDINA COUNTY

410142082005900 MD-1 Lodi (1) 168

OTTAWA COUNTY

413644083201400 O-1 Williston (1) 169

PORTAGE COUNTY

410920081192000 PO-6 East of Kent (1) 170

PUTNAM COUNTY

405505084032900 PU-1 Columbus Grove (1) 171

RICHLAND COUNTY

405753082360800 R-3 Shiloh (1) 172

SANDUSKY COUNTY

411914083045300 S-3 Fremont (1) 173
412703083213600 S-2 Woodville (1) 174

SENECA COUNTY

410802083093900 SE-2 Tiffin (1) 175

SUMMIT COUNTY

410330081282000 SU-6 Akron (1) 176
410846081271600 SU-7 Cuyahoga Falls (1) 177

VAN WERT COUNTY

405215084335400 VW-1 Van Wert (1) 178
413108084415300 WN-12 East of Blakeslee (1) 179

WYANDOT COUNTY

405009083172600 WY-1 Upper Sandusky (1) 180

WATER RESOURCES DATA FOR OHIO, 1979

INTRODUCTION

Water resources data for the 1979 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report, in three volumes, contains discharge records for 197 gaging stations; stage and contents for 32 lakes and reservoirs; water quality for 54 gaging stations, and 49 wells; and water levels for 157 observation wells. Also included are 58 crest-stage partial-record stations, 26 low-flow partial-record stations, and 311 coal hydrology synoptic sites. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Va. 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report OH-79-2." Water-Data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161.

COOPERATION

The U.S. Geological Survey and organizations of the State of Ohio have had cooperative agreements for the systematic collection of streamflow records since 1898, for ground-water levels since 1936, and for water-quality records since 1946. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Ohio Department of Natural Resources, R.W. Teater, director, through Division of Water, C.E. Call, chief.

Ohio Environmental Protection Agency, J.F. McAvoy, director, through Division of Surveillance and Laboratory Services, Rex Sprague, chief.

Ohio Department of Transportation, D.L. Weir, director, through Division of Highway, L.R. Talbert, engineer for research and development.

Miami Conservancy District, L.B. Coy, general manager and secretary.

Three Rivers Watershed District, G.H. Watkins, secretary-treasurer.

City of Columbus Department of Public Service, R.C. Parkinson, director, through Division of Water, Jack Holt, superintendent.

City of Canton Water Department, J.D. Williams, superintendent.

U.S. Office of Surface Mining, Region 3, E.A. Imhoff, regional director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army in collecting records for 140 hydrologic-data stations in this report, and by the Environmental Protection Agency for 18 stations.

Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

At the start of the 1979 water year, streamflow was excessive throughout most of the State. The only exception was northwestern Ohio, where it was normal. The heavy rains in the middle of the month accounted for the greater than normal run-off. The month of November was normal throughout the State, except central Ohio where it was excessive. December streamflow was excessive except in northwest Ohio where it was normal. January streamflow was normal except the northeast, where it was excessive. The rains of December 9 produced high water and the heavy rains of December 31 and January 1, 1979 produced excessive flows during the first week of January. After the first week, flows were near normal. A sizable amount of runoff remained frozen on the ground at the end of the month.

Streamflow for February was normal throughout the State during the first three weeks of the month and excessive during the last week due to increased run-off from heavy rains and snow melt. Minor flooding was observed in many areas of the State and serious flooding occurred in the southern portion of the state and the Ohio River valley. The snow melt continued into March creating excessive runoff during the first and second weeks around most of the State, the exception being the northeast, where it was normal. The rest of March and through April was normal throughout the State, except for the central area which was moderately excessive for April.

Streamflow for May was below normal throughout most of the State and only slightly deficient for the northeastern part of the State.

June streamflow was normal throughout the State except eastern Ohio, where it was deficient, with the flow sustained by excessive precipitation during the last week of May. Streamflow for July was above normal throughout most of the State and excessive in the western portion. Generally, flows in the central and western portions of the State were excessive during the first half of the month and normal the last.

Streamflow for August was excessive throughout the State, except the eastern section which was normal. Flash flooding was reported throughout the State. Butler and Gallia Counties reported a shopping center, 300 homes, and an apartment complex were flooded. The reported precipitation in these areas was about 3 inches in one hour.

Streamflow for September was excessive throughout the State as the result of above normal precipitation for August and September. Heavy rains from the tail end of Hurricane Fredrick on September 13th and 14th caused major flooding of many streams in the State, with some major damage in low-lying areas and the loss of three lives in central Ohio.

Streamflow was generally normal to excessive throughout most of the State during the 1979 water year. The only exception was in the Maumee River basin, where streamflow was within the lower range of normal flow. Although streamflow was noticeably excessive in many areas throughout the year, there was only a few occurrences of major flooding or serious flood damage this year.

Source: Ohio Department of Natural Resources Monthly Water Inventory Report for Ohio and U.S. Geological Survey Water Resources Data Reports.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer, tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Bottom material: See Bed material and anthropogenic material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll *a* and *b* are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT^3/s, ft^3/s, cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved.--That material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution area, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface stream and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (UG/G, μg/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per kilogram (UG/KG, μg/kg) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (kilogram) of bottom material.

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation.
Silt..........	.004 - .062	Sedimentation.
Sand..........	.062 - 2.0	Sedimentation or sieve.
Gravel........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, number, mass or volume.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC,pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Recoverable from bottom material.--The amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-Sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is the quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45-micrometer filter.

Suspended, recoverable.--The amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) *dissolved* and (2) *total recoverable* concentrations of the constituent.

Suspended, total.--The total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) *dissolved* and (2) *total* concentrations of the constituent.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total.--The total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material.--The total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total recoverable.--The amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published after 1975.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 04041000, which appears just to the left of the station name, includes the 2-digit part number "04" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1.

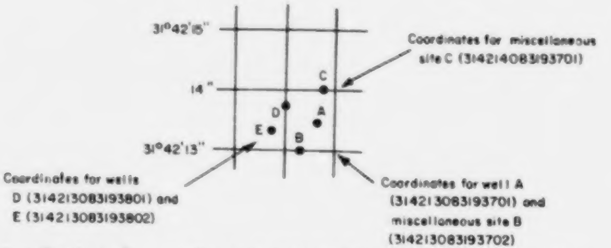
31°42'15"
Coordinates for miscellaneous site C (314214083193701)
C
14"
D
A
E
B
31°42'13"
Coordinates for wells D (314213083193801) and E (314213083193802)
Coordinates for well A (314213083193701) and miscellaneous site B (314213083193702)

Figure 1.--System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-back water techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage height and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some northern stream-gaging stations, the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs, a monthly summary table of stage and contents is given. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 2.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "EXTREMES" are given first, the extremes for period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with "EXTREMES FOR THE CURRENT YEAR"; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion. In the yearly summary, below the monthly summary the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made or water-quality samples are taken to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and chemical analyses are also given in special tables following the tables of partial-record stations.

For gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected during water year 1979 at many sites in Ohio by the National Weather Service, NOAA, U.S. Department of Commerce, by the Corps of Engineers, U.S. Army and by other agencies. The National Water Data Exchange, Water Resources Division, U.S.Geological Survey, National Center, Reston, Va. 22092, maintains an index of such sites. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, descriptive statements are given; the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 2.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well; National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number. and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens,Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

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3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

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3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

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3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

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4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

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4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

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5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

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7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

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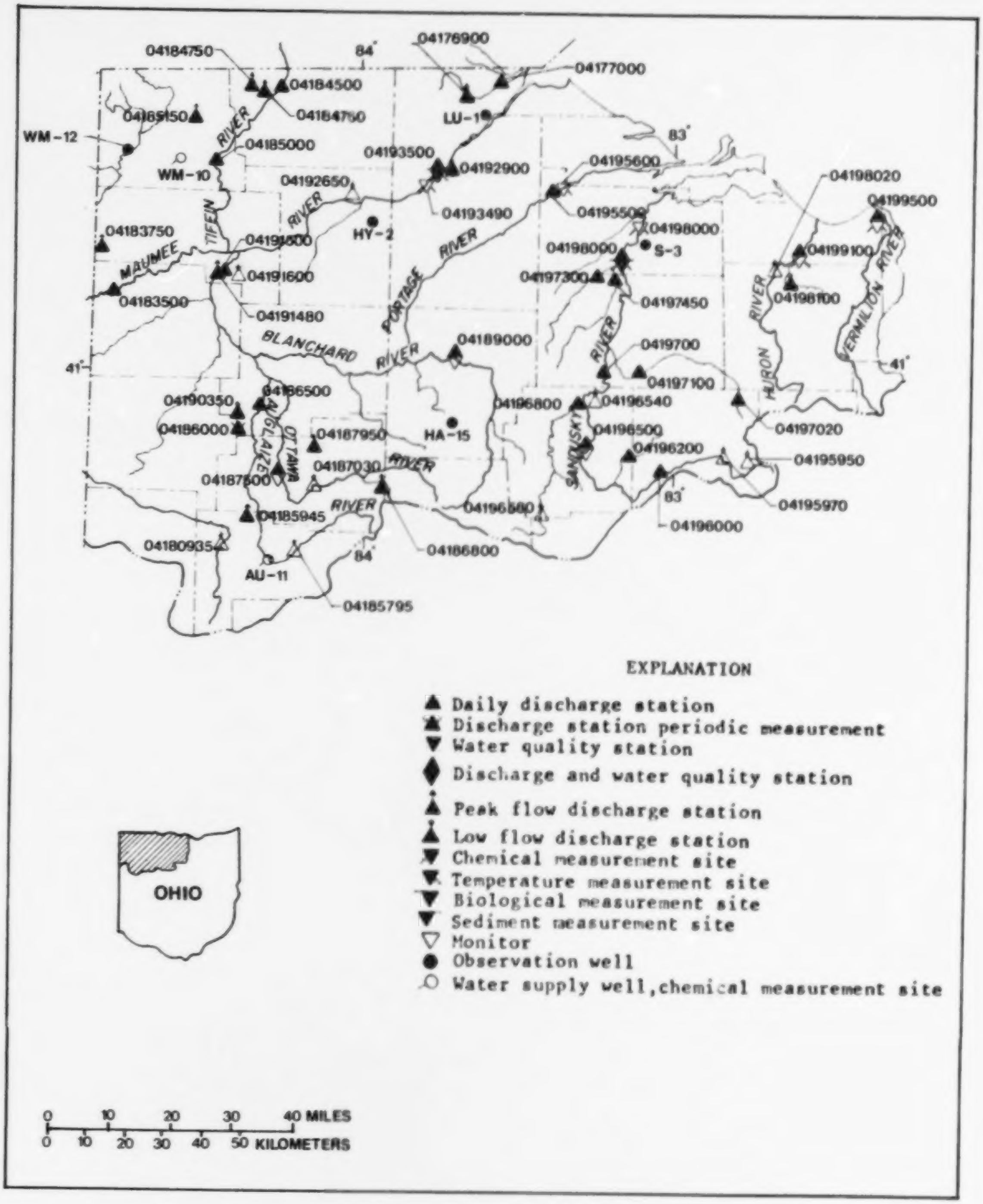
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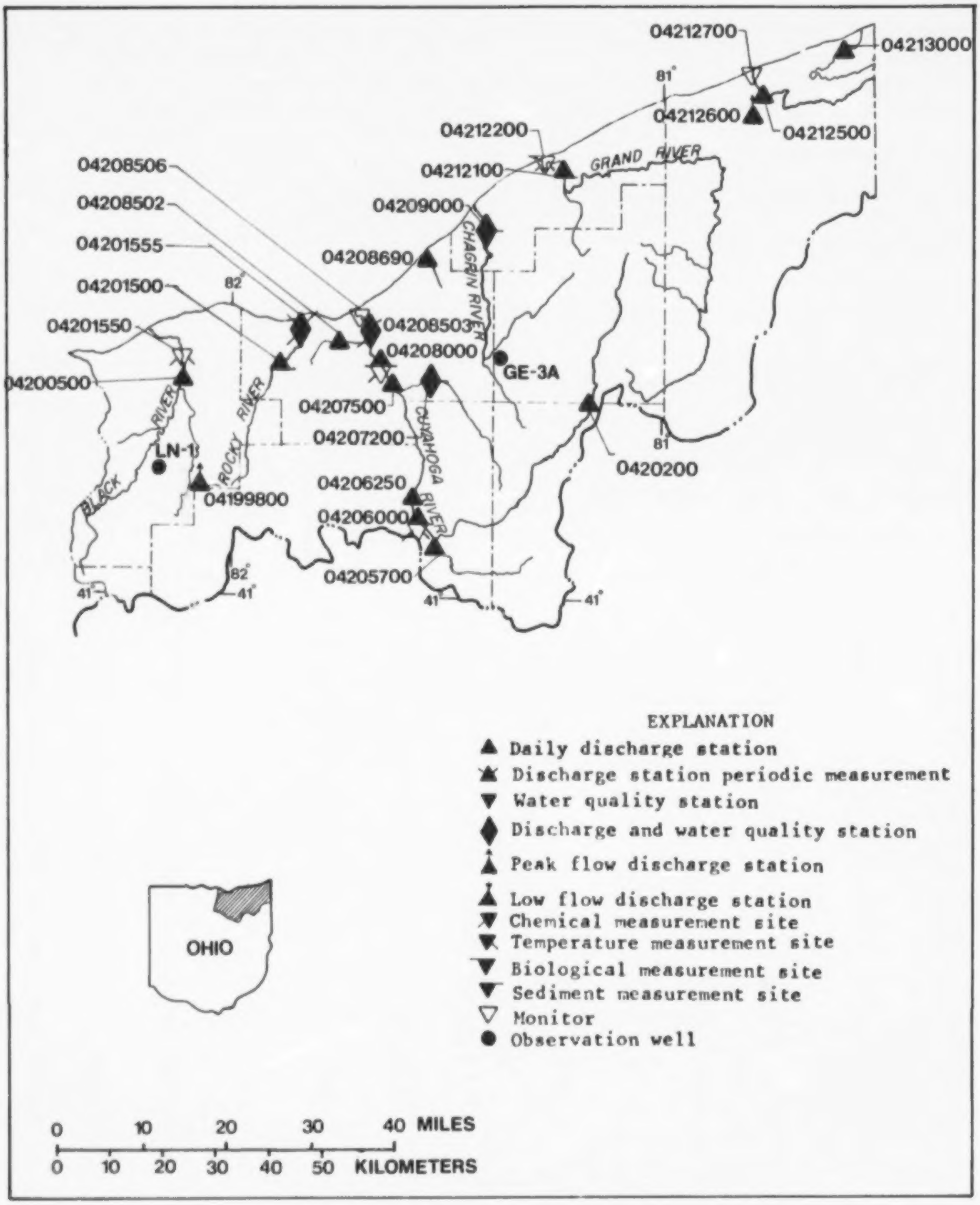
04176900
04177000
04184500
04184750
04185150
LU-1
WM-12
RIVER
04185000
83°
04193500
04192900
04195600
04198020
WM-10
04192650
04199500
04193490
04195500
04198000
RIVER
HY-2
04183750
TIFFIN
04191500
04198000
S-3
04199100
MAUMEE
RIVER
PORTAGE
04191600
04197300
04183500
04191480
04197450
04198100
RIVER
BLANCHARD
RIVER
04189000
RIVER
RIVER
VERMILION
HURON
0419700
41°
04197100
41°
04186500
04190350
04196800
04196540
04186000
AUGLAIZE
OTTAWA
04187950
HA-15
04196500
04197020
04196200
04187030
RIVER
SANDUSKY
04195950
04187500
83°
04195970
04185945
RIVER
04196580
04196000
04180935
84°
04186800
AU-11
04185795
EXPLANATION
▲ Daily discharge station
Discharge station periodic measurement
▼ Water quality station
◆ Discharge and water quality station
Peak flow discharge station
Low flow discharge station
Chemical measurement site
Temperature measurement site
Biological measurement site
Sediment measurement site
▽ Monitor
● Observation well
○ Water supply well, chemical measurement site
OHIO
0 10 20 30 40 MILES
0 10 20 30 40 50 KILOMETERS

Figure 2a.--Location of data-collection stations.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04212200
04212100
GRAND RIVER
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04208502
04209000
04201555
04208690
CHAGRIN RIVER
04201500
82°
04201550
04208503
04208000
GE-3A
04200500
BLACK RIVER
ROCKY RIVER
04207500
CUYAHOGA RIVER
04207200
81
0420200
LN-1
04199800
04206250
04206000
04205700
82°
41°
41°
41°
41°
OHIO
EXPLANATION
Daily discharge station
Discharge station periodic measurement
Water quality station
Discharge and water quality station
Peak flow discharge station
Low flow discharge station
Chemical measurement site
Temperature measurement site
Biological measurement site
Sediment measurement site
Monitor
Observation well
0 10 20 30 40 MILES
0 10 20 30 40 50 KILOMETERS

Figure 2b.--Location of data-collection stations.

04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH

LOCATION.--Lat 41°39'36", long 83°36'44", in NE 1/4 sec. 32, T.9 S., R.7 E., Lucas County, Hydrologic Unit 04100001, on left bank at auto bridge at Toledo University, Toledo, Ohio., 0.4 mi (0.6 km) downstream from Deline Ditch, 5.6 mi (9.0 km) upstream from Sibley Creek, and 10.9 mi (17.5 km) upstream from mouth.

DRAINAGE AREA.--150 mi² (388 km²). Area at site used prior to Sept. 30, 1948, 150 mi² (388 km²), revised.

PERIOD OF RECORD.--March 1945 to September 1948 (published as "Tenmile Creek at Toledo"), August 1976 to current year.

REVISED RECORDS.--WSP 1307: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 576.28 ft (175.650 m) National Geodetic Vertical Datum of 1929. (From Aug. 1976 to July, 1979 at site 500 ft (152.4 m) downstream. Prior to Sept. 30, 1948 water-stage recorder at site 2,500 ft (762 m) upstream at datum 3.72 ft (1.134 m) higher.

REMARKS.--Records good except those for winter period, which are fair. which are fair. Water-quality data collected at this site 1977.

AVERAGE DISCHARGE.--6 years(1946-48, 1977-79) 111 ft³/s (3.144 m³/s) 10.05 in/yr (255 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3330 ft³/s (94.3 m³/s) Mar. 22, 1978, gage height, 13.70 ft (4.176 m); minimum, no flow Aug. 24 to Sept. 19, 1945, July 7-15, Aug. 12-15, Sept. 1-9, 16-22, Oct. 5-10, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943 reached a stage of 15.1 ft (4.602 m) present datum, from floodmark, Lucas County Sanitary Engineers, discharge, 3,400 ft³/s (96.3 m³/s). Flood of Apr. 25, 1950 reached a stage of 15.0 ft (4.572 m) present datum, from floodmark, discharge, 3,300 ft³/s (93.5 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft³/s (22.7 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 5	1230	904	25.6	8.32	2.536	Apr. 14	2200	*1830	51.8	*11.06	3.371
Apr. 10	0600	1100	31.2	9.08	2.768						

Minimum daily discharge, 2.2 ft³/s (0.062 m³/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	19	19	350	9.0	280	492	150	82	230	40	22
2	6.7	21	19	277	9.0	350	358	130	73	129	180	27
3	6.4	21	139	197	9.0	420	354	190	65	87	150	23
4	7.0	20	170	147	9.0	551	258	240	55	219	110	22
5	8.0	20	120	83	9.0	842	290	150	45	337	88	21
6	12	21	90	49	9.0	400	521	120	40	135	120	22
7	9.1	27	70	40	9.0	217	353	100	55	78	90	19
8	8.7	24	58	33	9.0	185	252	90	71	56	60	15
9	8.7	22	48	27	9.0	180	673	79	48	250	50	13
10	8.7	22	39	24	9.0	220	992	62	51	290	70	15
11	8.7	22	34	21	9.0	161	486	58	39	127	98	14
12	9.5	22	30	19	9.0	99	352	88	30	77	52	12
13	21	21	26	17	9.0	68	557	110	23	63	44	63
14	11	95	23	16	9.0	96	1590	80	20	49	34	225
15	11	24	21	15	9.0	82	1600	55	17	44	25	73
16	25	16	20	14	9.0	68	744	51	16	33	21	52
17	17	81	20	13	9.0	58	430	46	15	28	18	37
18	13	37	19	12	9.0	50	280	42	15	24	100	32
19	12	21	19	12	9.0	65	210	47	14	20	500	30
20	13	17	25	11	9.0	109	150	49	35	19	250	24
21	13	15	30	11	9.0	109	250	50	291	17	200	21
22	14	15	44	10	9.0	108	150	48	442	16	70	21
23	21	41	36	10	13	107	140	47	128	14	59	22
24	21	21	30	9.8	300	110	110	74	68	20	70	24
25	23	17	25	9.6	230	97	170	184	48	68	78	23
26	41	16	22	9.4	180	77	250	560	37	55	53	20
27	24	28	19	9.2	130	54	210	542	26	48	43	15
28	19	25	17	9.2	170	63	170	253	26	36	37	8.5
29	18	19	19	9.0	---	122	230	149	54	29	35	2.2
30	21	19	30	9.0	---	403	170	113	176	25	31	17
31	19	---	111	9.0	---	656	---	98	---	50	27	---
TOTAL	458.9	789	1392	1482.2	1221.0	6407	12832	4054	2105	2673	2823	934.9
MEAN	14.8	26.3	44.9	47.8	43.6	207	428	131	70.2	86.2	91.1	31.2
MAX	41	95	170	350	300	842	1600	560	442	337	500	225
MIN	6.4	15	17	9.0	9.0	50	110	42	14	14	18	2.2
CFSM	.10	.18	.30	.32	.29	1.38	2.85	.87	.47	.58	.61	.21
IN.	.11	.20	.35	.37	.30	1.59	3.18	1.01	.52	.66	.70	.23

CAL YR 1978 TOTAL 49898.3 MEAN 137 MAX 3090 MIN 3.8 CFSM .91 IN 12.37
WTR YR 1979 TOTAL 37171.9 MEAN 102 MAX 1600 MIN 2.2 CFSM .68 IN 9.22

04183500 MAUMEE RIVER AT ANTWERP, OH

LOCATION.--Lat 41°11'56", long 84°44'40", in sec. 22,T. 3N., R.1 E., Paulding County, Hydrologic Unit 04100005, on left bank 425 ft (130 m) downstream from bridge on State Highway 49, 1 mi (2 km) north of Antwerp, 7 mi (11 km) downstream from Indiana State line and 10 mi (16 km) upstream from Marie DeLarme Creek.

DRAINAGE AREA.--2,129 mi² (5,514 km²).

PERIOD OF RECORD.--September 1921 to December 1935, April 1939 to current year.

REVISED RECORDS.--WSP 1174: 1927, 1933, 1940. WSP 1387: 1922-23, 1925-27, 1934. WDR OH-70-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 694.90 ft (211.805 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1925, nonrecording gage at site 400 ft (122 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Low flow slightly regulated by powerplant at Fort Wayne, Indiana, 32 mi (51.5 km) upstream. Flow slightly regulated by upstream reservoirs. Water quality data collected at this site 1969 to 1977.

AVERAGE DISCHARGE.--54 years, 1,680 ft³/s (47.58 m³/s), 10.72 in/yr (272 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft³/s (742 m³/s) May 20, 1943, gage height, 20.29 ft (6.184 m); minimum daily, 26 ft³/s (0.74 m³/s) July 24, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913, estimated as 40,000 ft³/s (1,130 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,100 ft³/s (456 m³/s) Mar. 6, gage height, 17.01 ft (5.185 m), above base of 8,000 ft³/s (227 m³/s); minimum daily 97 ft³/s (2.74 m³/s) Nov. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	153	350	2380	295	5230	6190	1420	1690	552	496	771
2	210	160	463	3610	290	7790	4910	1290	1340	521	3270	876
3	153	128	629	2970	285	9290	4180	1430	1000	1120	3260	932
4	142	148	1930	1890	280	12000	3770	1560	778	859	3300	717
5	126	160	2310	1700	275	14500	3520	1650	669	823	2470	539
6	172	250	1420	1500	270	16000	3110	1720	522	608	2230	583
7	126	208	1050	1300	260	15400	2660	1760	547	442	1670	490
8	155	170	1590	1100	255	13800	2410	1620	510	537	1420	304
9	121	160	1970	950	250	11600	2810	1400	601	534	1380	383
10	165	180	1610	840	245	10500	4530	1320	831	935	1490	361
11	117	160	1090	770	240	7800	4490	985	838	997	2200	306
12	167	119	703	720	235	5500	5190	951	651	1110	1480	266
13	148	97	779	660	230	3900	6620	1070	601	820	896	260
14	210	279	714	610	220	3000	7440	794	459	1020	838	282
15	193	738	570	570	220	3400	7470	1450	436	738	534	299
16	144	374	516	530	215	3000	6610	1070	351	524	432	232
17	210	307	470	490	215	2800	5470	883	315	385	406	251
18	195	641	419	460	210	2000	5090	648	303	345	390	274
19	328	425	408	440	210	2800	4400	553	296	364	407	421
20	160	438	458	420	210	2700	3370	571	297	329	1260	422
21	135	318	257	400	215	2550	2560	597	721	298	3040	400
22	160	285	438	390	220	2460	1990	528	694	245	1830	313
23	162	298	338	380	280	2210	1630	549	544	196	2210	291
24	160	370	343	370	3420	1990	1390	471	389	194	3420	249
25	172	365	345	360	6030	1990	1350	867	360	564	2460	178
26	148	323	325	350	6220	1720	1190	2080	303	775	1650	212
27	185	306	300	340	5190	1620	1230	2740	262	788	1160	194
28	180	318	290	330	4470	1310	1250	2230	235	652	889	194
29	170	328	310	320	---	3410	1320	1740	208	417	712	183
30	165	314	350	310	---	7180	1420	1670	374	358	713	180
31	158	---	400	300	---	7580	---	1680	---	490	589	---
TOTAL	5203	8520	23145	27760	30955	187030	109570	39297	17125	18540	48502	11363
MEAN	168	284	747	895	1106	6033	3652	1268	571	598	1565	379
MAX	328	738	2310	3610	6220	16000	7470	2740	1690	1120	3420	932
MIN	117	97	257	300	210	1310	1190	471	208	194	390	178
CFSM	.08	.13	.35	.42	.52	2.83	1.72	.60	.27	.28	.74	.18
IN.	.09	.15	.40	.49	.54	3.27	1.91	.69	.30	.32	.85	.20

CAL YR 1978 TOTAL 662900 MEAN 1816 MAX 21200 MIN 97 CFSM .85 IN 11.58
WTR YR 1979 TOTAL 527010 MEAN 1444 MAX 16000 MIN 97 CFSM .68 IN 9.21

04184500 BEAN CREEK AT POWERS, OH

LOCATION.--Lat 41°40'39", long 84°13'56", in NE 1/4 sec. 24, T.9 S., R.1 E., Fulton County, Hydrologic Unit 04100006, on right bank at downstream side of bridge on U.S. Highway 20, 1 mi (2 km) east of Powers, 2.2 mi (3.5 km) upstream from Iron Creek, 3 mi (5 km) downstream from Silver Creek, and 5.2 mi (8.4 km) east of Fayette.

DRAINAGE AREA.--206 mi² (534 km²).

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1307: 1948 (M) WSP 1912: Drainage area WDR OH-76-2: 1975.

GAGE.--Water-stage recorder. Datum of gage is 717.57 (216.715 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 18, 1941, nonrecording gage, Jan. 18, 1941 to Sept. 30, 1977, water-stage recorder at same site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good except those for the winter period, which are fair. Water-quality data collected at this site 1969 to 1977.

AVERAGE DISCHARGE.--39 years, 163 ft³/s (4.616 m³/s), 10.74 in/yr (273 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s (120 m³/s) Apr. 29, 1956, gage height, 18.82 ft (5.736 m) present datum; minimum, 5.0 ft³/s (0.14 m³/s) Aug. 9, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,870 ft³/s (81.3 m³/s) March 4, gage height, 16.54 (5.041 m), minimum discharge, 18 ft³/s (.51 m³/s) Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	33	38	170	36	500	699	329	95	121	52	70
2	18	35	37	250	36	680	552	281	87	99	200	62
3	18	33	52	270	36	831	458	267	80	76	230	56
4	18	31	130	200	35	2150	360	494	74	134	170	52
5	18	30	126	150	35	2110	342	410	69	198	140	48
6	21	29	103	100	35	1640	450	326	64	120	150	43
7	22	28	89	80	35	1310	349	267	63	84	110	41
8	22	28	98	72	35	858	311	228	61	68	71	37
9	22	27	109	64	35	692	802	193	60	65	61	33
10	23	26	82	56	35	588	807	165	58	111	56	31
11	23	26	70	50	35	456	618	150	58	178	49	29
12	23	27	64	48	35	362	536	138	55	141	45	28
13	23	28	56	46	35	317	561	140	50	101	37	27
14	24	36	52	44	35	452	985	140	45	82	34	28
15	24	34	48	43	35	404	740	131	42	69	34	29
16	24	38	45	42	35	301	514	117	40	63	36	26
17	24	47	43	41	35	272	400	106	37	58	37	25
18	25	52	41	40	35	251	331	99	34	52	255	24
19	26	50	38	40	35	272	274	92	33	46	575	23
20	26	44	40	39	35	267	248	84	51	40	382	22
21	25	43	44	39	35	253	259	80	97	35	291	22
22	25	40	51	38	36	224	256	75	59	30	187	22
23	25	39	46	38	38	214	305	73	42	27	153	21
24	25	43	45	37	210	211	315	74	34	25	211	21
25	29	46	41	37	350	199	322	118	30	45	151	20
26	30	48	39	37	300	177	333	188	28	64	114	20
27	30	43	36	37	250	157	340	156	27	58	86	20
28	30	40	35	37	380	147	319	128	29	52	99	20
29	30	38	37	37	---	188	329	115	31	48	105	20
30	30	36	48	36	---	592	329	104	78	45	93	19
31	29	---	90	36	---	837	---	97	---	58	79	---
TOTAL	750	1098	1873	2254	2302	17912	13454	5365	1611	2393	4293	939
MEAN	24.2	36.6	60.4	72.7	82.2	578	448	173	53.7	77.2	138	31.3
MAX	30	52	130	270	380	2150	985	494	97	198	575	70
MIN	18	26	35	36	35	147	248	73	27	25	34	19
CFSM	.12	.18	.29	.35	.40	2.81	2.18	.84	.26	.38	.67	.15
IN.	.14	.20	.34	.41	.42	3.23	2.43	.97	.29	.43	.78	.17

CAL YR 1978 TOTAL 77907 MEAN 213 MAX 3140 MIN 14 CFSM 1.03 IN 14.07
WTR YR 1979 TOTAL 54244 MEAN 149 MAX 2150 MIN 18 CFSM .72 IN 9.80

04185000 TIFFIN RIVER AT STRYKER, OH

LOCATION.--Lat 41°30'16", long 84°25'47", in SW 1/4 sec. 5, T.6 N., R.4 E., Williams County, Hydrologic Unit 04100006, on left bank 0.5 mi (0.8 km) downstream from bridge on State Highway 191 at west edge of Stryker, 0.6 mi (1.0 km) upstream from Penn Central bridge, and 1.6 mi (2.6 km) downstream from Leatherwood Creek.

DRAINAGE AREA.--410 mi² (1,060 km²).

PERIOD OF RECORD.--September 1921 to September 1928 (published as "near Stryker"), October 1940 to current year.

REVISED RECORDS.--WSP 1144: 1922-28. WSP 1387: 1925. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 685.1 ft (208.82 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1928, nonrecording gage at site 3.5 mi (5.6 km) downstream at different datum. Oct. 13, 1940, to Jan. 17, 1941, nonrecording gage and Jan. 18, 1941, to Sept. 30, 1953, water-stage recorder, at site 0.5 mi (0.8 km) downstream at same datum.

REMARKS.--Records fair except those for winter periods, which are poor. Small diversion 12.5 mi (20.1 km) upstream from gage for municipal supply of Archbold. Diversion averaged 1.08 ft³/s (0.031 m³/s) in 1979 and is returned as sewage to Brush Creek which flows into Tiffin River about 15 mi (24 km) downstream from station. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1969 to 1974.

AVERAGE DISCHARGE.--46 years, 311 ft³/s (8.808 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,640 ft³/s (188 m³/s) Apr. 25, 1950, gage height, 15.45 ft (4.709 m); maximum gage height, 16.36 ft (4.987 m) Mar. 23, 1978; minimum daily discharge, 3.9 ft³/s (0.11 m³/s) Aug. 30, 31, Sept. 1, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 16.0 ft (4.88 m), from floodmarks, discharge, 7,600 ft³/s (215 m³/s). Flood in 1937 reached a stage of 15.0 ft (4.57 m), from information by local resident, discharge, 6,000 ft³/s (170 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,210 ft³/s (62.6m³/s) Mar. 6, gage height 12.87 ft (3.923 m), above base of 1,850 ft³/s (52.4 m³/s); minimum daily discharge, 16 ft³/s (0.45 m³/s) Oct. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	48	55	315	36	420	1240	323	180	740	91	215
2	21	48	54	529	36	640	1320	308	164	738	83	142
3	20	54	69	557	36	945	1250	323	148	465	295	109
4	16	55	155	350	35	1440	1050	453	134	279	350	101
5	16	54	212	194	35	1980	859	570	121	452	276	84
6	17	51	184	128	34	2170	727	590	110	469	241	73
7	19	51	138	104	32	2090	715	509	102	293	224	63
8	23	53	147	87	32	1930	715	402	100	183	168	54
9	23	55	181	71	35	1690	1030	325	98	153	124	48
10	22	55	134	57	36	1430	1240	277	94	152	104	44
11	22	58	71	52	34	1180	1380	243	91	170	106	40
12	21	59	64	47	34	908	1420	219	90	215	90	37
13	21	58	60	45	34	613	1340	205	84	184	74	34
14	23	63	57	43	34	481	1500	201	75	148	63	34
15	24	71	55	42	34	514	1610	204	68	126	54	36
16	28	58	52	41	34	535	1620	191	63	104	48	37
17	29	55	50	40	35	432	1420	171	57	87	47	34
18	31	85	46	40	34	357	1140	154	52	73	392	31
19	33	92	45	40	34	369	791	141	49	60	656	30
20	35	79	44	40	33	419	505	131	46	51	733	28
21	38	61	45	40	34	425	376	121	99	45	717	26
22	38	54	46	40	34	398	323	110	240	40	528	23
23	40	53	47	39	39	368	298	101	155	37	405	21
24	43	56	47	38	90	356	255	101	91	34	481	21
25	46	64	46	38	260	343	256	255	67	39	362	21
26	51	69	42	38	220	304	252	515	54	96	253	20
27	55	69	38	38	200	255	280	512	48	96	178	20
28	54	66	35	38	240	224	304	387	43	58	143	20
29	50	58	34	38	---	329	319	285	45	44	213	19
30	50	57	33	38	---	762	330	233	353	40	564	21
31	49	---	50	37	---	1090	---	202	---	66	387	---
TOTAL	977	1809	2336	3244	1804	25397	25935	8764	3121	5737	8450	1487
MEAN	31.5	60.3	75.4	105	64.4	819	855	283	104	185	273	49.5
MAX	55	92	212	557	260	2170	1620	590	353	740	733	215
MIN	16	48	33	37	32	224	256	101	43	34	47	19

CAL YR 1978 TOTAL 131384 MEAN 360 MAX 5680 MIN 15
WTR YR 1979 TOTAL 89061 MEAN 244 MAX 2170 MIN 16

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH

LOCATION.--Lat 40°56'55", long 84°15'58", in SE 1/4 sec. 15, T.1 S., R.5 E., Putnam County, Hydrologic Unit 04100007, on left bank 200 ft (61 m) upstream from bridge on U. S. Highway 224, 3.5 mi (5.6 km) northeast of Fort Jennings, 6 mi (10 km) upstream from Ottawa River, and 7.3 mi (11.7 km) downstream from Jennings Creek.

DRAINAGE AREA.--332 mi² (860 km²).

PERIOD OF RECORD.--August 1921 to December 1935. October 1940 to current year.

REVISED RECORDS.--WSP 744: 1932. WSP 974: 1930(M). WSP 1307: 1922-24(M), 1926-27(M), 1929(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 713.6 ft (217.51 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period which are fair, and those for periods of no gage-height record, Aug. 22 to Sept. 30, which are poor. Beginning Jan. 4, 1971, water was diverted at a point 24.3 mi (39.1 km) upstream from station into Lake Bresler. Storage in Lake Bresler is available for low-flow augmentation and water supply of city of Lima, in Ottawa River basin. Net withdrawal totaled 2,749 mil gal (10.40 hm³), equivalent to a mean withdrawal of 11.6 ft³/s (0.33 m³/s). No releases have been made for low-flow augmentation. Some diversion from Grand Lake to Auglaize River basin through Miami and Erie Canal into Jennings Creek at a point 9.2 mi (14.8 km) upstream from station. Annual figures of runoff are considered to be within 10 percent of natural yield. Sediment data collected at this site 1973 to 1974. Water-quality data collected at this site 1968 to 1978.

AVERAGE DISCHARGE.--53 years, 283 ft³/s (8.015 m³/s), 11.57 in/yr (294 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 12,000 ft³/s (340 m³/s) Jan. 23, 1959; maximum gage height, 20.30 ft (6.187 m) Jan. 23, 1959, from floodmark (ice jam); minimum daily discharge, 4.9 ft³/s (0.14 m³/s) Oct. 7, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2000 ft³/s (56.6 m³/s) and maximums (*):

		Discharge		Gage Height				Discharge		Gage Height	
Date	Time	(ft³/s)	(m³/s)	(ft)	(m)	Date	Time	(ft³/s)	(m³/s)	(ft)	(m)
Feb. 25	0700	3660	104	12.40	3.780	May 27	0500	2020	57.2	9.72	2.963
Mar. 5	0630	*5860	166	*15.05	4.587	Aug. 2	1030	2230	63.2	10.16	3.100
Apr. 15	1300	4410	125	13.39	4.081	Aug. 20	---	2150	60.9	unknown	

Minimum Daily Discharge, 9.7 ft³/s (0.27 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	31	27	209	26	700	213	160	190	116	1440	1000
2	11	30	27	1200	26	1000	199	133	157	90	2110	940
3	11	28	51	600	25	1810	201	129	135	65	1780	900
4	11	27	98	200	24	4280	226	133	115	48	712	700
5	15	26	69	100	24	5550	425	133	103	41	390	420
6	17	27	39	74	23	4370	525	119	109	37	307	310
7	17	29	34	43	23	1630	369	105	146	32	228	240
8	16	34	39	35	23	822	297	100	129	28	213	170
9	17	33	45	31	22	665	390	92	147	79	153	140
10	17	33	48	29	22	733	517	83	217	707	153	120
11	17	33	35	27	21	651	395	77	145	476	90	96
12	17	35	31	25	20	371	807	75	103	204	58	86
13	18	33	27	24	20	228	1150	87	79	121	40	79
14	23	35	20	24	20	239	2590	92	67	182	56	250
15	21	39	19	23	20	385	4270	92	57	105	45	450
16	23	36	20	23	19	321	3410	88	49	68	38	370
17	24	38	19	22	19	255	859	68	44	56	34	260
18	27	50	17	22	19	243	498	61	42	43	36	200
19	23	37	17	22	19	260	333	55	39	37	36	135
20	23	28	18	23	21	246	243	52	37	31	38	105
21	23	24	21	25	34	217	225	50	39	27	47	89
22	23	21	24	27	72	188	216	48	39	25	88	78
23	23	26	20	28	320	173	186	46	37	23	150	68
24	24	29	21	29	2450	166	157	56	32	24	300	60
25	23	28	22	30	3590	151	152	271	32	82	240	54
26	20	27	24	30	2400	127	171	1520	35	343	200	49
27	19	27	27	29	1200	103	156	1900	32	311	450	45
28	18	30	19	29	820	103	153	961	31	160	740	44
29	22	28	17	28	---	232	216	470	34	100	2000	50
30	27	27	17	27	---	278	197	312	101	74	1500	40
31	29	---	26	27	---	267	---	233	---	240	1100	---
TOTAL	608.7	929	938	3065	11322	26764	19756	7793	2522	3975	14772	7546
MEAN	19.6	31.0	30.3	98.9	404	863	659	251	84.1	128	477	252
MAX	29	50	98	1200	3590	5550	4270	1900	217	707	2110	1000
MIN	9.7	21	17	22	19	103	152	46	31	23	34	40
CFSM	.06	.09	.09	.30	1.22	2.60	1.99	.76	.25	.39	1.44	.76
IN.	.07	.10	.11	.34	1.27	3.00	2.21	.87	.28	.45	1.66	.85

CAL YR 1978 TOTAL 110471.0 MEAN 303 MAX 7940 MIN 9.3 CFSM .91 IN 12.38
WTR YR 1979 TOTAL 99990.7 MEAN 274 MAX 5550 MIN 9.7 CFSM .83 IN 11.20

04187500 OTTAWA RIVER AT ALLENTOWN, OH

LOCATION.--Lat 40°45'18", long 84°11'41", in NW 1/4 sec. 29, T.3S., R.6E., Allen County, Hydrologic Unit 04100007, on left bank at upstream side of bridge on State Highway 81 at Allentown, 0.3 mi (0.5 km) downstream from Kessler Run, and 1.5 mi (2.4 km) upstream from McBride Ditch.

DRAINAGE AREA.--160 mi² (414 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to December 1935, August 1943 to current year.

REVISED RECORDS.--WSP 1004: 1924. WSP 1144: 1944(M). WSP 1207: 1927. WSP 1387: 1924(M), 1927-28(M), 1929, 1930(M), 1935(M). WSP 1912: Drainage area. WDR OH-77-2: 1976 (P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 789.14 ft (240.530 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1925, nonrecording gage and Oct. 1, 1925, to Dec. 30, 1935, water-stage recorder, at site 35 ft (11 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Diurnal fluctuation and some regulation caused by operation of water-supply and sewage-treatment plants of city of Lima upstream from station.

AVERAGE DISCHARGE.--48 years, 125 ft³/s (3.540 m³/s), 10.61 in/yr (269 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,740 ft³/s (219 m³/s) Jan. 22, 1959, gage height, 10.88 ft (3.316 m), from rating curve extended above 4,800 ft³/s (136 m³/s); minimum daily, 2.4 ft³/s (0.068 m³/s) June 28, July 21, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 15, 1939, reached a stage of 10.1 ft (3.08 m), discharge, 6,160 ft³/s (174 m³/s), and flood in May 1943 reached a stage of about 10 ft (3 m), discharge, about 6,000 ft³/s (170 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45.3 m³/s) and maximums (*):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft³/s)	(m³/s)	(ft)	(m)	Date	Time	(ft³/s)	(m³/s)	(ft)	(m)
Mar. 5	0230	2990	84.7	8.12	2.475	Apr. 14	2400	*3780	107	*8.81	2.685

Minimum Discharge, 20 ft³/s (0.57 m³/s) Oct. 1, 21, but may have been less during period of ice effect.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	26	30	356	28	135	103	85	105	89	506	70
2	23	27	29	438	28	306	124	64	91	55	588	120
3	26	30	186	141	28	654	143	88	76	45	170	203
4	44	27	93	73	28	2220	178	83	70	68	78	203
5	31	27	49	52	28	2560	420	76	65	52	105	109
6	35	29	43	41	28	887	360	78	122	45	109	59
7	32	38	53	39	27	475	243	70	71	41	73	35
8	28	29	86	37	27	379	200	58	67	35	75	53
9	26	26	73	35	27	322	315	50	76	107	82	52
10	26	26	48	34	27	384	344	48	62	105	51	54
11	25	27	38	33	27	307	250	53	57	48	42	49
12	28	28	36	33	27	138	494	76	50	32	65	49
13	69	35	34	32	27	89	551	91	48	36	62	48
14	37	78	31	32	27	130	3200	67	43	63	50	229
15	36	44	30	32	27	161	2220	62	45	89	41	337
16	32	31	30	31	27	94	592	51	44	68	37	220
17	28	30	26	31	27	67	302	42	38	50	34	128
18	24	30	25	31	27	68	197	38	40	38	50	95
19	28	37	27	31	27	102	136	37	39	32	37	68
20	25	33	28	31	28	106	134	41	39	32	65	54
21	24	32	35	30	29	83	127	39	38	29	117	44
22	23	29	29	30	90	60	119	43	68	29	60	41
23	25	40	30	30	594	53	105	39	59	30	53	41
24	30	33	32	30	1230	103	99	87	47	47	80	39
25	28	32	38	30	599	93	110	524	40	67	114	39
26	59	32	32	29	291	81	106	1290	39	76	45	38
27	38	44	29	29	165	70	98	684	36	71	105	38
28	31	40	28	29	103	60	146	300	36	58	80	45
29	26	33	28	29	---	74	133	136	38	48	488	39
30	25	31	36	28	---	96	109	84	148	93	323	35
31	28	---	103	28	---	101	---	95	---	174	98	---
TOTAL	967	1004	1415	1885	3648	10458	11658	4579	1797	1852	3883	2635
MEAN	31.2	33.5	45.6	60.8	130	337	389	148	59.9	59.7	125	87.8
MAX	69	78	186	438	1230	2560	3200	1290	148	174	588	337
MIN	23	26	25	28	27	53	98	37	36	29	34	35
CFSM	.20	.21	.29	.38	.81	2.11	2.43	.93	.37	.37	.78	.55
IN.	.22	.23	.33	.44	.85	2.43	2.71	1.06	.42	.43	.90	.61

CAL YR 1978 TOTAL 46981 MEAN 129 MAX 2470 MIN 21 CFSM .81 IN 10.92
WTR YR 1979 TOTAL 45781 MEAN 125 MAX 3200 MIN 23 CFSM .78 IN 10.64

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1969 to current year.
pH: October 1977 to current year.
WATER TEMPERATURES: March 1969 to current year.
DISSOLVED OXYGEN: October 1977 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,810 micromhos Feb. 11, 1977; minimum recorded, 199 micromhos Mar. 18, 1973.
pH: Maximum, 9.4 units Feb. 26, 1978; minimum, 7.1 units Nov. 3, 8, 9, 21, 1977, Aug. 12, Sept. 29, 30, 1978.
WATER TEMPERATURES: Maximum recorded, 31.5°C June 29, 1970, July 15, 1976; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L May 3, 1978; minimum, 0.5 mg/L June 12, 1978

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,570 micromhos July 12; minimum, 243 micromhos Mar. 5.
pH: Maximum, 9.2 units June 14; minimum, 7.0 units Oct. 1, 22, 23.
WATER TEMPERATURES: Maximum, 28.5°C July 16; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum recorded, 19.0 mg/L June 24; minimum recorded, 1.6 mg/L Aug. 27.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	1580	1450	1570	1500	1050	675	1620	1460	1250	1130
2	---	---	1590	1470	1540	1430	672	597	1640	1530	1110	639
3	---	---	1650	1530	1490	570	978	675	1660	1500	630	351
4	1450	1390	1650	1510	1080	741	1190	993	1620	1490	342	269
5	1500	1340	1780	1530	1450	1090	1430	1200	1750	1490	297	243
6	1620	1380	1760	1530	1580	1150	1570	1400	1590	1540	447	300
7	1560	1420	1700	1530	1390	1250	1670	1460	1550	1490	569	447
8	---	---	1570	1470	1330	1020	1520	1460	1550	1490	636	555
9	---	---	---	---	1090	921	1650	1450	1910	1580	702	630
10	---	---	---	---	1360	1110	1730	1550	1700	1540	735	615
11	---	---	---	---	1440	1340	1610	1480	1740	1540	694	597
12	---	---	---	---	1450	1350	1550	1410	1670	1510	885	695
13	---	---	---	---	1570	1350	1590	1460	1690	1490	1150	845
14	---	---	1470	1400	1570	1390	1450	1290	1690	1500	1150	900
15	---	---	1380	1240	1610	1500	1930	1530	1670	1560	894	815
16	---	---	1570	1300	1660	1500	1510	1360	1580	1570	957	855
17	---	---	1570	1130	1640	1510	1350	1290	1710	1540	1150	930
18	---	---	1120	969	1640	1540	1520	1340	1740	1550	1150	1050
19	1650	1500	1350	1110	1580	1480	1670	1420	1520	1510	1150	1000
20	1580	1450	1630	1370	1580	1450	1520	1410	1550	1440	994	942
21	1650	1490	1580	1450	1680	1450	1520	1330	1800	1460	1110	951
22	1610	1490	1560	1490	1860	1470	1550	1360	2320	1780	1180	1050
23	1740	1580	1580	1440	1840	1630	1770	1570	2010	441	1350	1180
24	1750	1590	1450	1270	1740	1640	1900	1590	394	303	1440	1050
25	1730	1550	1460	1350	1720	1550	1870	1710	459	321	1070	997
26	1700	1300	1480	1350	1650	1580	1850	1590	609	462	1090	1000
27	1300	1220	1590	1450	1730	1580	1750	1570	882	603	---	---
28	1520	1300	1490	1310	1770	1580	1550	1490	1190	777	---	---
29	1640	1410	1570	1360	1770	1670	1690	1520	---	---	1470	1290
30	1660	1570	1610	1470	1750	1580	1530	1510	---	---	1290	1140
31	1660	1480	---	---	1630	1100	1670	1450	---	---	1200	1100
MONTH	1750	1220	1780	969	1860	570	1930	597	2320	303	1470	243

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1140	1090	1110	984	1160	1100	1190	780	753	369	1550	930
2	1110	1000	1200	1040	1180	1110	1210	1030	582	420	984	873
3	1050	906	1190	1040	1180	1100	1450	1220	765	600	912	659
4	945	613	1080	930	1220	1130	1430	1210	---	---	804	609
5	747	597	1240	1040	1200	1160	1310	1140	---	---	939	750
6	750	582	1190	1050	1230	906	1390	1300	969	948	1100	939
7	768	732	1250	1160	1330	894	1430	1320	1110	945	1500	1120
8	849	765	1390	1250	1370	1170	1470	1370	1150	960	1660	1260
9	843	729	1450	1280	1320	1180	1410	661	1170	954	1220	1120
10	729	575	1550	1330	1280	1130	1030	747	1240	951	1210	1100
11	798	708	1480	1250	1220	1130	1090	912	1410	1150	1240	1170
12	684	591	1440	1300	1250	1190	2570	1100	1410	1070	1390	1240
13	663	435	1200	1010	1340	1230	1520	1370	1190	1030	1480	1390
14	411	270	1250	1090	2300	1320	1550	1200	1160	1100	1490	642
15	414	282	1380	1260	2040	1280	1390	1070	1200	1140	843	645
16	547	417	1370	1240	1500	1430	1190	1100	1260	1190	783	645
17	735	612	1440	1330	1570	1460	1220	1100	1340	1270	948	792
18	1010	711	1520	1360	1510	1420	1330	1230	1370	1200	1050	939
19	1060	561	1560	1380	---	---	1370	1270	1360	1180	1290	1020
20	987	921	1530	1380	1510	1320	1600	1340	1450	1020	1240	1130
21	972	915	1540	1450	1540	1300	1450	1380	978	816	1400	1120
22	---	---	---	---	1590	1150	1470	1390	1230	969	1420	1230
23	1050	1010	---	---	1210	1150	1520	1380	1490	1150	1370	1240
24	1110	1010	---	---	1300	1210	1550	1330	1510	1060	1350	1270
25	1140	1070	828	516	1450	1310	1430	1040	1030	873	1320	1280
26	1130	1040	525	474	1550	1430	1390	1040	1180	960	1450	1310
27	1190	1030	570	534	1560	1410	1170	1030	2310	843	1510	1360
28	1120	543	---	---	1580	1420	1190	1080	1140	864	1600	1470
29	984	903	987	945	1610	1390	1350	1090	1080	372	1600	1330
30	1030	939	1100	966	1410	672	1300	810	693	432	1530	1350
31	---	---	1300	1070	---	---	810	588	981	702	---	---
MONTH	1190	270	1560	474	2300	672	2570	588	2310	369	1660	609
YEAR	2570	243										

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.6	7.0	7.4	7.1	7.7	7.4	---	---	7.7	7.6	7.5	7.4
2	7.8	7.1	7.4	7.1	7.7	7.4	7.6	7.4	7.8	7.6	7.5	7.3
3	7.4	7.1	7.3	7.1	7.6	7.3	7.6	7.5	7.9	7.6	7.3	7.2
4	7.6	7.1	7.3	7.1	7.4	7.3	7.6	7.5	7.6	7.5	7.5	7.3
5	7.6	7.2	7.3	7.1	7.4	7.3	7.6	7.5	7.6	7.5	7.4	7.3
6	7.5	7.1	7.3	7.1	7.8	7.2	7.6	7.5	7.6	7.3	7.5	7.3
7	7.3	7.1	7.3	7.2	7.7	7.5	7.5	7.5	7.6	7.4	7.4	7.3
8	---	---	7.4	7.2	7.6	7.4	7.6	7.5	7.6	7.5	7.6	7.4
9	---	---	---	---	7.7	7.5	7.5	7.5	7.7	7.6	7.5	7.4
10	---	---	---	---	8.2	7.7	7.6	7.5	7.6	7.5	7.4	7.4
11	---	---	---	---	8.1	7.8	7.7	7.5	7.6	7.5	7.5	7.4
12	---	---	---	---	8.4	7.7	7.7	7.5	7.5	7.4	7.7	7.5
13	---	---	---	---	7.8	7.7	7.8	7.7	7.6	7.5	7.6	7.5
14	---	---	7.3	7.2	7.9	7.8	7.8	7.6	7.7	7.5	7.6	7.5
15	---	---	7.3	7.2	7.9	7.8	7.6	7.5	8.1	7.7	7.6	7.5
16	---	---	7.5	7.2	8.1	7.8	8.1	7.6	8.3	8.0	7.6	7.5
17	---	---	7.4	7.2	---	---	8.1	7.9	8.1	7.6	7.6	7.4
18	7.5	7.2	7.4	7.2	---	---	8.2	7.9	8.1	7.9	7.6	7.4
19	7.5	7.1	7.4	7.2	---	---	7.9	7.9	8.2	8.0	7.7	7.5
20	7.3	7.1	7.5	7.2	---	---	8.0	7.7	8.1	7.9	7.8	7.5
21	7.3	7.1	7.4	7.3	---	---	8.2	7.6	8.3	7.7	7.9	7.6
22	7.4	7.0	7.5	7.3	---	---	7.9	7.5	7.7	7.5	7.9	7.5
23	7.5	7.0	7.3	7.3	---	---	7.9	7.7	7.6	7.3	7.8	7.5
24	7.4	7.1	7.5	7.3	---	---	7.9	7.5	7.5	7.3	7.8	7.5
25	7.3	7.1	7.6	7.4	---	---	7.5	7.4	7.2	7.2	8.0	7.7
26	7.3	7.1	7.5	7.4	---	---	7.6	7.5	7.3	7.2	8.0	7.7
27	7.4	7.2	7.5	7.4	---	---	7.6	7.5	7.5	7.2	---	---
28	7.3	7.2	7.6	7.4	---	---	7.6	7.5	7.5	7.3	---	---
29	7.4	7.2	7.6	7.4	---	---	7.6	7.5	---	---	8.4	7.9
30	7.3	7.1	7.6	7.4	---	---	7.7	7.5	---	---	8.1	7.7
31	7.3	7.1	---	---	---	---	7.7	7.6	---	---	8.2	7.6
MONTH	7.8	7.0	7.6	7.1	8.4	7.2	8.2	7.4	8.3	7.2	8.4	7.2

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.6	8.6	7.7	8.1	7.7	7.7	7.3	7.5	7.4	7.5	7.3
2	8.1	7.6	8.7	8.0	8.1	7.8	7.9	7.5	7.9	7.5	7.7	7.4
3	8.4	7.7	8.5	7.6	8.2	7.7	7.9	7.3	7.8	7.5	7.8	7.5
4	8.0	7.5	8.4	7.6	8.2	7.7	7.6	7.3	---	---	7.6	7.2
5	7.7	7.5	8.6	7.7	8.1	7.9	7.9	7.3	---	---	7.7	7.5
6	7.7	7.5	8.8	7.7	7.9	7.6	7.9	7.2	7.7	7.5	7.9	7.4
7	7.9	7.8	8.8	7.7	7.9	7.6	8.2	7.2	7.7	7.5	8.0	7.3
8	8.0	7.8	8.6	7.7	8.0	7.6	8.6	7.3	8.4	7.4	7.8	7.2
9	7.9	7.7	8.3	7.6	8.1	7.6	7.6	7.3	7.8	7.4	8.2	7.4
10	7.8	7.7	8.1	7.5	8.2	7.5	7.9	7.3	7.8	7.5	8.4	7.5
11	7.8	7.7	8.0	7.4	8.2	7.6	8.4	7.5	7.6	7.4	8.4	7.5
12	7.7	7.5	7.7	7.5	8.4	7.6	9.1	7.5	8.3	7.3	8.4	7.5
13	7.6	7.4	7.8	7.4	8.0	7.5	8.3	7.4	8.5	7.4	7.8	7.3
14	7.5	7.5	7.7	7.4	9.2	7.4	7.8	7.4	8.5	7.4	7.5	7.3
15	7.5	7.5	7.9	7.6	8.8	7.5	8.2	7.4	8.6	7.6	7.6	7.3
16	7.6	7.6	8.0	7.7	8.7	7.5	8.4	7.5	8.7	7.6	7.6	7.5
17	7.7	7.6	8.3	7.7	8.8	7.5	8.5	7.5	8.3	7.4	7.6	7.5
18	7.7	7.7	8.5	7.6	8.8	7.5	8.7	7.4	8.3	7.3	7.8	7.4
19	8.2	7.7	8.5	7.6	---	---	8.9	7.5	8.2	7.2	7.6	7.3
20	7.9	7.7	8.7	7.7	8.6	7.5	8.6	7.5	7.6	7.2	7.7	7.4
21	7.8	7.7	8.6	7.7	8.8	7.4	8.6	7.4	7.5	7.2	7.6	7.3
22	---	---	---	---	8.5	7.4	8.6	7.4	7.6	7.2	7.6	7.3
23	7.9	7.7	---	---	8.9	7.7	8.7	7.3	7.4	7.2	7.8	7.3
24	7.9	7.6	---	---	9.0	7.7	7.5	7.3	7.6	7.2	8.0	7.5
25	7.9	7.5	7.9	7.8	9.0	7.7	7.6	7.3	7.5	7.2	8.0	7.4
26	7.9	7.5	7.8	7.5	9.0	7.5	7.8	7.3	7.3	7.2	7.8	7.3
27	8.1	7.6	7.6	7.6	9.0	7.3	8.1	7.3	8.7	7.2	7.9	7.3
28	7.8	7.6	---	---	9.0	7.3	7.9	7.4	7.4	7.2	7.4	7.2
29	8.2	7.7	7.9	7.7	8.7	7.3	8.5	7.4	7.5	7.2	7.9	7.3
30	8.3	7.6	7.9	7.7	7.6	7.3	8.0	7.4	7.4	7.3	8.0	7.2
31	---	---	7.9	7.6	---	---	7.6	7.3	7.4	7.3	---	---
MONTH	8.4	7.4	8.8	7.4	9.2	7.3	9.1	7.2	8.7	7.2	8.4	7.2
YEAR	9.2	7.0										

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.0	16.5	13.5	11.5	6.0	4.0	7.5	5.0	.5	.0	---	---
2	18.0	15.0	13.0	10.0	6.0	4.5	7.0	.5	.5	.0	---	---
3	16.5	16.0	14.5	11.0	---	---	1.0	1.0	1.5	.0	---	---
4	16.5	15.5	15.0	12.0	---	---	1.5	.0	1.5	.0	---	---
5	16.0	14.5	15.5	13.0	---	---	.0	.0	.0	.0	---	---
6	14.5	14.0	14.5	13.0	---	---	.0	.0	.0	.0	---	---
7	13.5	13.5	13.0	10.5	8.5	6.0	.0	.0	.5	.0	---	---
8	---	---	11.0	9.5	9.0	6.5	.0	.0	.0	.0	---	---
9	---	---	---	---	6.5	3.0	.0	.0	.0	.0	---	---
10	---	---	---	---	2.5	1.0	.0	.0	.0	.0	---	---
11	---	---	---	---	3.0	1.5	.0	.0	.0	.0	---	---
12	---	---	---	---	5.0	3.0	.0	.0	.0	.0	---	---
13	---	---	---	---	4.5	2.5	.0	.0	.0	.0	6.5	3.0
14	---	---	13.0	12.0	2.5	1.0	.0	.0	.0	.0	6.5	4.0
15	---	---	9.0	9.0	3.5	1.5	.0	.0	.0	.0	4.0	2.5
16	---	---	9.5	9.0	4.5	2.5	.0	.0	.0	.0	6.0	1.5
17	---	---	13.0	9.5	4.0	2.5	.0	.0	.0	.0	8.5	3.5
18	12.5	11.5	11.0	9.5	3.0	2.5	.0	.0	.0	.0	12.5	8.5
19	14.0	12.0	8.5	8.0	3.0	2.5	.0	.0	.0	.0	---	---
20	14.0	11.0	8.5	8.0	6.0	2.5	1.0	.0	.0	.0	---	---
21	15.5	12.5	8.0	5.5	5.5	2.5	2.5	1.0	.0	.0	---	---
22	16.5	14.0	7.5	6.5	3.5	1.5	2.0	1.5	---	---	---	---
23	16.0	13.0	9.5	7.0	4.0	2.0	2.5	1.0	---	---	---	---
24	12.5	10.5	9.0	5.0	4.0	3.0	3.5	2.5	---	---	---	---
25	12.5	10.0	7.0	5.5	4.0	2.5	3.0	1.5	---	---	---	---
26	15.0	12.5	7.0	5.5	3.0	1.0	2.0	.5	---	---	---	---
27	13.0	11.0	6.5	5.5	1.0	.0	3.0	1.5	---	---	---	---
28	13.0	10.5	6.5	5.0	.5	.0	3.0	1.0	---	---	---	---
29	12.0	9.5	5.0	3.5	2.0	.0	2.5	1.0	---	---	11.5	11.0
30	13.0	9.5	5.5	4.0	5.5	2.5	2.0	.0	---	---	13.0	11.0
31	14.0	11.0	---	---	8.0	5.5	2.0	.0	---	---	13.0	12.0
MONTH	18.0	9.5	15.5	3.5	9.0	.0	7.5	.0	4.5	.0	13.0	1.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	9.5	15.5	10.0	22.5	19.0	20.0	19.0	24.5	22.5	25.5	23.0
2	12.0	9.5	18.0	12.5	22.5	18.5	23.0	18.5	23.0	21.5	24.0	22.5
3	11.5	8.5	17.5	15.5	24.0	19.5	24.5	20.5	23.5	21.5	24.0	22.0
4	9.5	7.5	15.5	13.0	24.5	20.5	23.5	21.5	---	---	22.5	21.5
5	8.0	6.0	16.5	11.0	22.5	22.0	23.5	19.5	---	---	24.5	21.0
6	7.0	4.5	18.5	14.0	24.0	20.0	24.0	20.0	26.0	25.0	25.0	22.0
7	6.0	4.5	21.5	16.0	23.0	22.0	24.5	20.5	27.5	23.5	23.5	21.0
8	7.5	5.0	24.0	18.5	25.0	21.5	25.5	21.0	27.0	25.0	21.5	19.0
9	7.5	5.0	25.5	20.5	27.0	23.5	24.0	22.0	27.0	24.0	21.0	17.5
10	8.0	5.0	25.5	22.0	27.0	23.0	24.5	21.0	26.5	25.0	22.0	18.5
11	7.5	5.0	25.5	22.0	23.0	20.0	26.5	22.0	25.0	21.0	22.0	20.5
12	11.5	7.5	23.5	19.5	23.5	19.0	26.0	24.0	23.0	19.5	24.0	20.5
13	12.0	11.0	20.5	15.5	21.5	19.5	27.0	24.5	23.0	20.0	23.0	22.0
14	11.0	9.5	20.5	17.0	24.0	18.5	26.5	24.0	22.5	20.5	21.5	19.0
15	10.5	8.5	21.5	18.0	26.0	21.5	27.5	24.5	20.5	18.0	19.0	17.5
16	8.5	6.0	21.0	16.0	26.5	23.0	28.5	24.5	22.0	17.5	19.0	16.0
17	11.5	7.5	22.0	15.5	26.5	23.0	27.0	24.0	20.5	19.5	19.5	16.5
18	13.5	9.0	23.5	18.0	26.5	22.0	26.0	22.5	22.5	19.5	21.0	17.5
19	15.0	10.5	23.5	19.0	---	---	26.0	22.0	24.0	22.0	19.5	17.0
20	16.5	11.5	23.5	19.5	26.0	24.0	26.5	22.5	23.5	22.5	19.0	16.0
21	15.0	13.5	23.5	19.0	27.0	23.0	26.5	23.0	23.5	21.5	18.5	17.5
22	---	---	---	---	26.0	23.0	26.5	24.0	23.0	22.0	18.0	16.5
23	18.5	17.5	---	---	25.0	22.5	27.0	23.5	23.0	22.5	18.0	14.5
24	18.0	15.5	---	---	24.0	20.5	25.5	24.0	24.5	22.0	18.5	15.0
25	18.5	16.5	12.5	10.5	24.0	19.5	24.5	23.0	22.5	20.5	19.5	16.0
26	17.5	15.5	11.5	10.0	24.5	20.0	27.0	23.5	22.0	20.5	20.5	17.0
27	16.0	13.0	12.0	11.5	24.5	21.0	27.5	24.0	22.0	20.0	19.5	17.0
28	15.0	11.5	---	---	25.0	22.0	26.5	24.0	22.5	21.0	20.0	19.0
29	13.5	10.5	19.5	18.5	24.5	23.0	26.5	22.5	22.0	20.5	21.0	18.0
30	14.5	11.5	21.0	17.0	22.5	20.5	25.5	23.5	23.0	20.0	21.5	19.0
31	---	---	20.5	19.0	---	---	27.0	24.0	25.5	21.5	---	---
MONTH	18.5	4.5	25.5	10.0	27.0	18.5	28.5	18.5	27.5	17.5	25.5	14.5
YEAR	28.5	.0										

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	1.9	7.8	2.1	10.9	7.0	11.0	5.5	12.2	11.2	11.7	11.2
2	10.9	2.0	8.3	2.3	9.6	6.3	12.2	5.2	12.0	11.1	12.6	10.9
3	7.2	2.0	7.4	2.1	9.3	8.1	12.3	11.9	11.7	11.0	---	---
4	7.4	2.1	7.7	1.9	---	---	12.0	11.5	12.0	10.8	---	---
5	8.2	2.0	7.5	1.8	---	---	12.0	11.4	12.6	11.9	---	---
6	7.5	2.2	6.3	1.6	---	---	11.7	10.8	12.3	11.8	13.0	11.3
7	5.4	2.2	5.4	2.2	10.7	9.0	11.0	10.6	11.9	10.6	12.2	11.3
8	---	---	8.7	2.4	9.8	8.1	11.1	10.7	11.1	10.5	12.4	11.5
9	---	---	---	---	11.3	9.2	11.3	10.9	11.2	10.1	12.2	12.0
10	---	---	---	---	12.9	11.4	11.2	10.8	11.7	11.1	12.8	11.9
11	---	---	---	---	12.9	10.8	11.3	10.9	11.4	10.3	13.1	12.7
12	---	---	---	---	11.5	9.7	11.2	10.7	10.8	9.8	13.1	12.5
13	---	---	---	---	10.8	9.2	10.9	9.8	11.0	10.6	12.5	11.3
14	---	---	6.9	5.8	11.9	10.1	10.8	9.6	11.4	9.9	12.3	11.2
15	---	---	7.1	3.3	11.8	10.3	11.9	11.0	10.7	9.3	13.1	12.3
16	---	---	9.1	3.3	11.4	10.0	12.6	11.7	10.7	9.4	13.2	12.3
17	---	---	6.0	4.5	11.7	9.9	12.6	11.6	11.7	10.7	12.6	11.3
18	7.9	3.4	---	---	11.3	10.1	12.3	11.6	12.5	11.5	11.8	10.4
19	8.5	2.5	---	---	11.4	10.1	12.5	11.9	11.7	10.8	11.2	9.7
20	7.2	2.6	---	---	11.1	9.3	11.8	10.8	11.7	10.9	11.5	10.0
21	7.4	2.5	---	---	11.1	9.0	11.0	10.1	11.4	9.6	11.8	9.5
22	8.3	2.5	---	---	12.3	10.2	12.0	10.6	10.9	7.8	12.1	9.1
23	5.5	2.3	5.8	4.6	12.3	10.6	12.1	11.0	10.8	8.1	11.1	8.2
24	7.8	2.4	6.0	4.4	11.5	10.2	11.0	9.7	---	---	10.9	8.5
25	7.6	2.8	9.5	4.9	12.5	10.0	11.3	9.7	---	---	12.8	10.1
26	4.1	2.5	8.4	5.4	13.0	10.9	12.4	11.3	---	---	14.2	11.4
27	6.6	2.4	7.4	5.4	14.0	11.7	11.8	10.7	12.7	11.8	---	---
28	6.9	2.3	9.1	5.0	14.0	12.8	11.6	10.2	12.4	11.5	---	---
29	7.3	2.4	10.8	5.6	13.5	.11.7	11.9	10.3	---	---	12.5	10.7
30	7.4	2.5	10.4	5.7	11.6	10.0	12.4	11.1	---	---	13.0	9.0
31	7.6	2.2	---	---	10.1	8.8	12.1	11.0	---	---	13.4	8.5
MONTH	10.9	1.9	10.8	1.6	14.0	6.3	12.6	5.2	12.7	7.8	14.2	8.2

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.7	9.1	13.8	11.5	9.2	5.8			---	---	6.0	2.7
2	13.1	9.4	16.0	9.0	9.8	5.6			7.8	4.9	6.3	3.5
3	14.8	10.1	10.7	5.4	10.1	4.7			5.0	4.4	6.0	5.1
4	12.0	10.1	12.5	5.3	10.6	4.2			---	---	5.6	3.9
5	12.2	10.2	15.3	7.4	9.1	5.6			---	---	6.0	4.5
6	12.8	10.2	16.6	6.0	8.1	3.6			5.0	4.0	7.8	3.5
7	13.0	12.2	16.0	5.4	7.0	2.7			5.4	3.5	8.4	3.1
8	13.1	11.8	13.8	4.4	9.3	3.1			8.3	2.9	7.5	3.0
9	11.8	11.4	10.8	3.5	10.0	2.5			5.5	3.0	9.9	3.5
10	11.9	11.1	9.3	3.0	10.8	2.1			5.7	2.7	11.3	3.9
11	12.4	10.7	9.2	3.0	12.0	3.1			5.6	2.6	11.1	3.2
12	11.5	8.2	5.6	3.2	13.2	3.3			9.5	3.2	11.3	3.2
13	9.4	8.6	7.2	4.5	10.3	2.6			9.8	3.3	---	---
14	9.3	8.9	8.1	4.4	15.9	3.1			10.3	2.9	---	---
15	10.8	9.0	8.8	4.3	15.3	4.0			11.0	4.2	---	---
16	11.7	9.6	10.2	5.1	14.7	2.8			12.0	4.8	---	---
17	11.7	10.8	11.9	5.0	15.5	2.6			9.5	3.8	---	---
18	11.2	9.2	13.1	4.6	15.6	2.6			9.2	3.2	---	---
19	9.9	8.6	14.4	4.1	---	---			8.9	2.3	---	---
20	9.4	8.0	14.7	3.9	13.9	4.2			---	---	---	---
21	8.7	7.7	14.2	3.8	15.8	2.0			7.0	3.3	---	---
22	---	---	---	---	12.8	2.4			6.2	2.9	---	---
23	---	---	---	---	17.4	2.9			5.4	2.5	---	---
24	9.7	7.3	---	---	19.0	3.4			7.2	2.4	---	---
25	9.9	6.8	10.2	9.3	18.6	3.6			5.9	3.2	---	---
26	9.6	5.5	10.4	9.5	18.0	3.1			4.7	2.8	---	---
27	11.7	7.2	9.5	9.2	12.9	2.6			4.5	1.6	---	---
28	9.6	7.2	---	---	12.4	2.7			5.6	3.3	---	---
29	12.2	6.7	8.2	5.9	10.7	1.9			5.5	3.5	---	---
30	12.5	7.9	8.9	5.4	---	---			5.2	3.7	---	---
31	---	---	7.9	5.0	---	---			4.8	3.1	---	---
MONTH	14.8	5.5	16.6	3.0	19.0	1.9			12.0	1.6	11.3	2.7
YEAR	19.0	1.6										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04189000 BLANCHARD RIVER NEAR FINDLAY, OH

LOCATION.--Lat 41°03'21", long 83°41'17", on east line of sec. 10, T.1 N., R.10 E., Hancock County, Hydrologic Unit 04100008, on left bank at upstream side of county road bridge, 2 mi (3 km) west of Findlay, 3 mi (5 km) downstream from Eagle Creek, and 3 mi (5 km) upstream from Aurand Run.

DRAINAGE AREA.--346 mi² (896 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to December 1935, October 1940 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 974: 1942. WSP 1054: 1927-30, 1933(M), 1945. WSP 1387: 1926, 1928(M), 1930(M), 1952. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 754.55 ft (229.987 m) National Geodetic Vertical Datum of 1929. Prior to July 24, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Water is diverted upstream from station into Findlay Reservoir. Storage in Findlay Reservoir used for water supply of city of Findlay, and is available for low-flow augmentation. All water returns to stream upstream from station. No releases have been made for low-flow augmentation. Sediment data collected at this site 1970-74.

AVERAGE DISCHARGE.--51 years, 246 ft³/s (6.967 m³/s), 9.66 in/yr (245 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) Feb. 11, 1959, gage height, 16.76 ft (5.108 m) from rating curve extended above 10,000 ft³/s (283 m³/s); minimum daily, 0.4 ft³/s (0.011 m³/s) Aug. 27, Sept. 3, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 18.5 ft (5.64 m); discharge, 22,000 ft³/s (623 m³/s), from rating curve extended above 10,000 ft³/s (283 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	1730	2610	73.9	7.61	2.320	Apr. 14	1400	*6300	178	*12.33	3.758
Mar. 5	0630	4800	136	11.00	3.353						

Minimum daily discharge, 17 ft³/s (0.48 m³/s) Oct. 1, 2, 11, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	29	1120	37	412	238	82	131	92	185	800
2	17	23	29	1730	36	802	250	69	98	63	589	500
3	19	23	270	1160	36	1490	318	88	88	49	749	320
4	25	23	546	768	34	3920	510	78	73	136	375	250
5	29	21	297	297	34	4790	1440	69	78	80	159	190
6	26	18	163	205	34	3980	1250	64	113	48	107	150
7	22	25	118	156	33	1550	604	58	75	39	75	130
8	19	28	247	129	32	808	419	52	64	34	151	120
9	18	25	378	98	32	683	749	45	52	208	174	110
10	18	23	232	74	31	786	855	45	48	362	124	100
11	17	22	166	65	30	686	556	60	63	257	156	92
12	18	20	136	60	30	385	659	80	56	220	127	78
13	25	21	101	64	30	303	1170	71	49	182	92	73
14	22	30	66	88	29	382	5730	65	46	820	51	337
15	20	26	60	46	29	432	4350	84	44	279	46	774
16	23	25	56	44	29	309	2410	64	39	120	41	600
17	23	51	50	44	28	241	835	49	36	69	36	279
18	21	49	46	44	28	253	493	55	36	51	350	177
19	21	42	44	44	28	356	349	52	36	41	2000	131
20	21	33	44	45	28	343	236	51	37	36	1000	101
21	19	30	58	45	40	279	241	45	116	30	700	84
22	17	27	44	45	50	222	199	42	122	28	520	71
23	18	36	38	45	780	193	156	40	60	39	430	61
24	19	32	34	52	2470	182	146	55	44	199	360	56
25	20	29	32	53	1790	156	145	541	42	337	540	52
26	23	25	30	45	1110	124	136	1560	36	107	400	45
27	23	32	32	44	578	96	131	1230	33	161	320	44
28	23	35	31	42	392	153	129	719	33	182	460	44
29	22	35	30	40	---	395	105	385	49	82	1850	45
30	23	33	39	39	---	422	94	241	153	53	1400	41
31	23	---	118	38	---	337	---	171	---	66	1100	---
TOTAL	651	865	3564	6777	7839	25460	24995	6549	1950	4470	14707	5855
MEAN	21.0	28.8	115	219	280	821	833	211	65.0	144	474	195
MAX	29	51	546	1730	2470	4790	5730	1560	153	820	2000	800
MIN	17	18	29	38	28	96	94	40	33	28	36	41
CFSM	.06	.08	.33	.63	.81	2.37	2.41	.61	.19	.42	1.37	.56
IN.	.07	.09	.38	.73	.84	2.74	2.69	.70	.21	.48	1.58	.63

CAL YR 1978 TOTAL 111683 MEAN 306 MAX 5500 MIN 17 CFSM .88 IN 12.01
WTR YR 1979 TOTAL 103662 MEAN 284 MAX 5730 MIN 17 CFSM .82 IN 11.15

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to current year.
pH: July 1968 to current year.
WATER TEMPERATURES: July 1968 to current year.
DISSOLVED OXYGEN: July 1968 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,710 micromhos Feb. 22, 1979; minimum, 134 micromhos Jan. 26, 1976.
pH: Maximum, 9.4 units Feb. 21, 1977; minimum, 3.1 units May 13, 1970.
WATER TEMPERATURES: Maximum, 33.0°C Aug. 27, 28, Sept. 5, 1969; minimum, 0.0°C on several days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L on several days during 1972; minimum, 0.0 mg/L June 18, July 2, 3, 1970, Aug. 2, 1975.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum 1,710 micromhos Feb. 22; minimum, 166 micromhos Mar. 4.
pH: Maximum recorded, 8.7 units May 9; minimum recorded, 5.2 units Aug. 19.
WATER TEMPERATURES: Maximum 28.0°C July 20, 23; minimum, 0.0°C Feb. 25, 26.
DISSOLVED OXYGEN: Maximum, 14.7 mg/L Feb. 4; minimum, 2.4 mg/L June 21.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	984	883	936	873	1020	974	826	476	1190	1120	592	534
2	993	921	963	909	1010	956	459	442	1160	1100	522	335
3	942	907	978	942	984	556	554	474	1110	1060	327	213
4	957	729	1010	946	696	555	676	570	1090	1040	205	155
5	870	729	994	946	700	672	735	679	1080	1040	175	154
6	890	774	951	883	760	708	777	721	1070	1030	279	211
7	895	829	970	949	804	717	796	750	1080	1030	420	289
8	965	881	919	926	760	708	819	787	1110	1050	471	425
9	925	863	939	861	706	651	846	820	1100	1060	507	471
10	948	856	942	882	718	679	858	850	1120	1070	514	487
11	978	888	954	906	744	708	924	883	1090	1030	505	471
12	1040	938	973	912	792	745	948	924	1030	985	594	504
13	994	829	915	885	825	795	1020	932	1070	1000	648	595
14	854	779	910	920	859	804	1550	1040	1090	1060	669	631
15	905	847	863	802	886	844	1190	994	1080	1060	630	595
16	870	795	939	888	916	859	1120	1050	1070	1060	631	600
17	881	797	925	627	913	854	1350	1120	1100	1070	658	631
18	964	887	847	636	883	858	1530	1260	1090	1010	678	657
19	949	906	865	840	932	886	1240	1160	1010	976	694	653
20	975	917	864	869	991	913	1190	1100	1080	975	669	649
21	976	934	901	858	1030	942	1240	1080	1700	1080	693	653
22	969	919	928	900	945	919	1230	1180	1710	1340	732	687
23	926	875	940	784	938	934	1330	1250	1350	255	753	705
24	946	863	912	789	957	895	1330	1240	250	143	753	730
25	996	925	916	906	932	897	1410	1280	238	207	777	744
26	936	895	942	912	942	925	1280	1170	303	231	805	752
27	927	904	939	886	999	952	1150	1100	472	304	899	749
28	937	904	973	919	1000	973	1130	1040	562	472	849	635
29	927	882	984	964	1010	973	1300	1120	---	---	706	639
30	873	810	978	949	1050	1010	1240	1180	---	---	673	651
31	883	813	---	---	1050	796	1190	1120	---	---	714	670
MONTH	1040	729	1010	627	1050	555	1550	442	1710	143	899	155

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	742	711	846	802	849	794	659	589	807	543	636	565
2	742	715	891	795	840	805	757	679	577	355	618	285
3	733	712	876	727	835	798	804	751	367	340	394	295
4	712	529	863	774	852	807	807	565	496	354	496	390
5	504	447	863	832	856	732	700	645	588	498	519	483
6	502	450	861	808	802	718	738	682	640	538	594	479
7	588	510	855	787	840	777	744	702	687	624	681	598
8	630	589	846	816	840	774	742	703	715	439	729	682
9	622	565	853	802	819	794	715	454	551	592	756	727
10	568	514	852	825	834	774	653	493	663	583	1030	757
11	582	523	847	805	835	780	630	513	712	642	1120	875
12	595	564	861	804	855	808	697	562	732	697	1230	910
13	561	282	816	777	863	804	607	475	774	712	1290	1030
14	256	210	847	798	863	790	532	313	825	747	1270	413
15	304	242	841	748	853	792	507	390	826	768	378	268
16	450	307	850	802	853	805	603	510	850	783	269	221
17	555	454	889	829	850	793	695	591	852	798	374	272
18	619	559	870	816	822	771	712	561	733	291	564	370
19	675	521	874	795	852	802	735	702	544	345	722	595
20	708	676	871	808	885	820	775	733	609	547	---	---
21	742	702	838	808	828	661	777	732	615	547	---	---
22	736	708	886	840	774	654	761	697	537	472	---	---
23	772	718	892	863	817	771	717	652	595	496	---	---
24	792	753	921	715	819	754	705	406	588	520	---	---
25	787	754	711	552	805	765	544	393	564	426	---	---
26	792	750	669	546	840	783	698	553	523	424	---	---
27	802	756	657	546	834	795	705	649	624	508	---	---
28	804	744	691	556	847	795	698	522	687	531	---	---
29	798	760	735	594	858	633	550	518	469	396	---	---
30	820	769	772	735	682	555	694	576	466	433	---	---
31	---	---	814	771	---	---	691	598	559	433	---	---
MONTH	820	210	921	546	885	555	807	313	852	291	1290	221
YEAR	1710	166										

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	7.5	7.7	7.3	---	---	8.1	7.1	7.9	7.6	8.1	8.1
2	7.7	7.2	7.8	7.3	---	---	7.9	7.1	7.9	7.4	8.1	7.9
3	7.6	7.4	7.7	7.2	---	---	8.0	7.8	7.5	7.2	7.8	7.2
4	7.7	7.5	7.7	7.1	---	---	7.8	7.6	8.2	7.3	8.0	7.0
5	7.9	7.7	7.6	7.1	---	---	7.9	7.3	8.0	7.8	8.0	8.0
6	7.9	7.7	7.6	7.3	---	---	8.0	7.3	7.9	7.6	8.3	7.4
7	7.9	7.8	7.7	7.5	---	---	7.9	7.4	7.8	7.2	8.2	7.5
8	7.9	7.8	7.7	7.5	---	---	8.0	7.5	7.9	7.7	8.1	8.0
9	8.0	7.6	7.8	7.4	---	---	8.0	7.8	7.9	7.7	8.1	7.7
10	7.8	7.3	7.8	7.5	---	---	7.9	7.7	7.9	7.7	8.2	7.9
11	7.7	7.4	7.8	7.5	---	---	7.9	7.2	7.8	7.5	8.2	8.1
12	7.6	7.3	7.7	7.5	---	---	7.6	6.5	8.0	7.4	8.0	7.7
13	7.6	7.4	7.6	7.4	---	---	7.2	6.3	7.8	7.3	7.8	7.7
14	7.7	7.5	7.7	7.3	---	---	7.9	6.3	7.7	7.2	8.2	7.9
15	7.7	7.6	7.6	7.5	---	---	8.0	7.8	7.8	7.3	8.2	8.1
16	7.8	7.6	7.8	7.6	---	---	7.9	7.2	8.0	7.7	8.1	7.8
17	7.9	7.5	7.6	7.1	---	---	7.7	7.0	8.0	7.9	8.1	7.5
18	7.7	7.5	7.7	7.4	---	---	7.7	7.3	7.9	7.8	---	---
19	7.7	7.5	7.8	7.7	---	---	7.5	7.2	---	---	8.0	7.7
20	7.7	7.3	7.9	7.6	---	---	7.0	5.7	---	---	---	---
21	7.6	7.1	7.7	7.7	---	---	7.4	6.9	---	---	---	---
22	7.5	7.0	7.7	7.4	---	---	7.6	7.3	---	---	8.1	7.7
23	7.7	7.3	7.4	7.2	---	---	7.6	6.8	7.9	7.6	8.2	7.9
24	7.7	7.4	7.7	7.4	---	---	7.1	6.3	8.1	7.8	8.2	7.9
25	7.6	7.3	7.7	7.4	---	---	7.8	7.2	8.0	7.9	8.3	8.1
26	7.5	7.3	7.7	7.2	---	---	7.6	7.2	8.0	8.0	8.3	8.2
27	7.6	7.3	7.7	7.5	---	---	7.2	6.5	8.1	7.8	8.2	7.9
28	7.6	7.4	7.8	7.5	---	---	7.2	7.0	8.2	7.9	8.2	7.5
29	7.6	7.3	7.8	7.5	8.1	8.0	7.8	7.1	---	---	7.9	7.5
30	7.7	7.3	---	---	8.1	8.0	7.7	7.4	---	---	7.8	7.5
31	7.6	7.2	---	---	8.0	7.4	7.6	7.4	---	---	8.0	7.9
MONTH	8.0	7.0	7.9	7.1	8.1	7.4	8.1	5.7	8.2	7.2	8.3	7.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.9	---	---	7.6	6.8	---	---	7.7	7.3	7.7	7.2
2	8.4	7.6	---	---	7.7	7.4	---	---	7.8	7.4	7.6	6.1
3	8.2	8.0	---	---	7.7	7.4	7.7	7.3	7.7	7.2	7.4	6.5
4	8.3	7.9	---	---	7.8	7.4	7.9	7.3	7.7	6.9	7.2	7.0
5	7.8	7.6	---	---	7.9	7.5	---	---	7.6	7.3	7.6	6.5
6	8.0	7.8	---	---	7.8	7.4	7.7	7.3	7.7	7.2	7.6	7.0
7	8.1	7.9	---	---	7.9	7.6	7.8	7.3	7.7	6.9	7.8	7.4
8	8.0	7.8	---	---	7.8	6.7	7.8	7.5	7.7	7.2	8.0	6.7
9	8.0	7.9	8.7	5.7	7.5	6.5	7.8	7.5	7.7	7.2	8.1	7.3
10	7.9	7.8	7.9	5.8	7.9	7.2	7.9	7.2	7.6	7.4	8.0	7.1
11	8.0	7.9	7.8	7.0	7.9	7.7	7.7	7.2	8.1	7.6	7.8	7.4
12	---	---	7.6	7.2	8.0	7.8	7.7	5.9	8.0	7.4	7.8	6.5
13	---	---	7.7	7.3	8.0	7.8	7.6	7.3	8.1	7.5	7.7	7.3
14	---	---	7.6	7.2	7.9	7.5	7.7	7.3	7.9	7.4	7.9	7.6
15	---	---	7.6	7.3	7.7	7.5	7.6	7.2	8.1	7.8	7.9	7.5
16	---	---	7.8	7.6	7.6	7.3	7.7	7.0	8.2	7.7	8.1	7.1
17	---	---	7.7	7.3	7.5	7.2	7.8	7.5	8.1	7.8	8.1	7.1
18	---	---	7.5	7.2	7.7	7.5	7.8	7.4	8.0	5.5	7.9	7.3
19	---	---	7.4	7.1	7.7	7.6	7.9	7.4	7.4	5.2	8.1	7.5
20	---	---	7.3	7.1	---	---	8.0	7.5	7.7	7.2	8.1	7.5
21	---	---	7.5	7.3	---	---	7.8	7.2	7.8	7.3	7.9	7.7
22	---	---	7.5	7.7	---	---	7.6	7.3	7.8	7.4	8.1	7.8
23	---	---	7.5	7.0	---	---	7.6	7.2	7.7	7.5	8.1	7.7
24	---	---	8.3	7.3	---	---	7.9	7.5	7.8	7.4	8.1	7.6
25	---	---	8.6	7.3	---	---	7.8	7.5	8.1	7.5	7.9	7.2
26	---	---	---	---	---	---	7.6	7.0	7.8	7.6	8.0	7.2
27	---	---	---	---	7.8	7.2	7.7	6.8	7.9	7.4	8.0	7.5
28	---	---	---	---	7.7	7.2	7.8	7.4	7.9	7.5	7.8	7.5
29	---	---	---	---	7.7	7.4	7.6	7.1	7.7	7.3	7.9	7.4
30	---	---	---	---	7.7	7.3	7.6	7.3	7.8	6.8	7.9	7.5
31	---	---	7.6	5.8	---	---	7.5	7.0	7.7	6.9	---	---
MONTH	8.4	7.6	8.7	5.7	8.0	6.5	8.0	5.8	8.2	5.2	8.1	6.1
YEAR	8.7	5.2										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	17.5	13.0	11.5	7.0	5.0	4.5	2.5	2.5	1.0	1.5	1.0
2	18.0	15.5	12.5	10.0	6.5	4.0	3.0	.5	3.0	1.0	.5	.5
3	17.5	16.5	13.5	11.0	5.5	4.5	.5	.5	3.5	2.5	1.0	.5
4	16.5	16.0	14.0	12.0	6.0	4.0	1.0	.5	3.0	.5	1.5	1.0
5	16.0	15.5	14.5	13.0	4.0	3.0	1.5	1.0	1.0	.5	3.5	3.5
6	15.5	14.0	14.0	11.5	5.0	3.5	1.5	1.0	1.5	.5	3.0	1.5
7	14.0	13.0	11.0	10.5	6.5	5.0	1.5	.5	2.5	1.0	4.0	2.5
8	13.0	11.5	10.5	8.5	6.5	5.5	2.0	.5	1.5	.5	5.0	3.5
9	13.5	11.0	10.5	9.0	5.0	2.5	1.0	.5	1.0	.5	4.5	4.0
10	15.5	13.0	11.5	10.0	2.5	1.0	1.5	1.0	1.0	.5	4.0	2.0
11	15.5	15.0	12.5	9.5	3.0	1.0	1.5	.5	1.0	1.0	2.0	.5
12	17.0	15.0	12.5	9.5	3.5	2.5	2.5	1.5	1.0	1.0	2.5	.5
13	16.0	15.0	12.5	9.5	3.0	2.0	3.0	2.0	2.0	1.0	5.0	2.5
14	15.0	13.5	13.0	10.5	3.0	1.5	3.0	.5	2.0	1.5	5.0	3.0
15	13.5	12.0	10.0	8.5	4.0	2.0	1.0	.5	2.0	1.5	3.0	1.5
16	12.5	11.5	9.5	7.5	4.5	3.0	2.5	1.0	1.5	1.0	3.5	1.0
17	12.5	10.0	12.0	9.5	4.0	3.0	2.5	1.5	1.0	.5	6.0	3.0
18	13.0	12.0	10.5	8.0	4.0	2.5	2.5	1.0	1.0	.5	9.0	5.5
19	14.0	12.5	8.0	7.5	4.0	3.0	2.5	1.0	1.5	1.0	9.0	8.5
20	13.5	11.0	8.0	7.0	6.0	3.5	3.5	2.5	3.0	1.0	9.5	8.0
21	15.5	13.0	7.0	5.5	5.5	3.0	3.0	2.0	3.0	3.0	11.0	8.5
22	16.0	14.5	7.5	5.5	4.0	2.5	2.5	1.5	4.0	3.0	12.0	9.0
23	16.0	11.5	9.5	7.5	4.0	2.5	3.5	2.0	3.5	.5	12.0	10.5
24	11.0	9.5	8.0	5.5	4.0	3.0	3.5	3.0	.5	.5	11.5	9.0
25	13.0	10.5	6.5	5.5	4.0	2.0	3.5	2.0	.5	.0	9.0	5.5
26	14.0	12.5	6.5	5.0	2.5	2.0	3.0	1.5	.5	.0	5.5	4.5
27	12.0	10.5	6.5	4.0	2.5	1.5	3.5	2.5	1.5	.5	8.0	4.0
28	12.0	11.0	6.5	4.0	3.0	1.5	3.5	2.0	1.5	.5	7.5	4.5
29	11.5	10.0	6.0	3.5	4.0	2.5	3.0	2.0	---	---	8.5	6.5
30	12.0	10.0	5.5	4.5	5.0	4.5	3.0	1.5	---	---	10.0	8.5
31	13.5	11.0	---	---	5.5	5.0	3.0	2.0	---	---	10.5	9.5
MONTH	18.5	9.5	14.5	3.5	7.0	1.0	4.5	.5	4.0	.0	12.0	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	8.0	16.0	10.0	21.0	17.5	19.5	18.5	24.5	23.5	23.0	21.5
2	9.0	7.5	17.5	11.5	22.0	18.0	19.5	17.5	23.5	22.0	22.0	21.0
3	9.5	7.5	16.0	14.5	23.5	19.0	23.5	17.5	23.5	21.5	21.5	21.0
4	8.5	5.0	14.5	12.5	24.5	19.5	22.5	19.0	24.5	22.0	22.0	21.0
5	6.5	4.5	16.5	11.0	23.0	20.0	23.0	18.0	25.0	23.5	22.5	20.5
6	6.0	4.0	18.5	13.0	24.0	20.0	24.5	18.5	26.0	23.0	23.0	21.0
7	5.5	3.5	21.0	14.0	22.5	21.0	25.5	19.5	28.0	23.0	22.5	20.5
8	6.0	4.5	19.5	15.5	24.0	20.5	26.0	21.0	25.0	24.0	20.5	19.0
9	6.0	4.5	24.5	19.0	26.5	22.0	25.0	21.0	24.5	23.5	20.0	17.5
10	6.5	4.0	24.5	20.5	26.5	22.0	22.0	20.5	24.5	23.0	21.0	18.0
11	6.0	5.5	25.5	21.0	24.0	18.0	23.5	21.0	23.5	21.0	21.0	19.5
12	10.5	6.0	22.5	17.5	24.5	19.0	24.5	22.5	22.5	20.0	23.0	19.0
13	11.5	10.5	20.0	15.5	22.5	18.5	24.0	23.0	23.0	20.0	22.5	20.5
14	11.0	8.5	20.5	15.5	25.0	19.5	24.0	22.0	23.0	20.5	21.0	19.0
15	10.5	8.5	20.0	16.5	26.5	21.0	25.0	23.0	22.0	18.0	18.5	17.0
16	8.5	7.5	21.0	15.0	27.0	22.0	27.0	23.5	23.5	18.0	18.0	16.0
17	9.5	7.0	22.0	15.5	27.0	22.5	26.5	23.5	21.5	19.5	18.5	16.5
18	11.0	9.0	23.0	17.0	25.0	21.0	27.0	21.5	19.5	17.5	20.0	17.5
19	12.5	10.0	23.0	18.0	26.0	20.5	27.0	21.5	20.0	18.5	19.5	17.0
20	14.0	11.0	23.0	19.0	25.5	21.5	28.0	22.0	20.0	19.5	19.5	16.5
21	14.0	12.0	23.0	18.0	25.5	21.5	27.5	23.0	20.5	19.0	18.5	17.0
22	14.5	12.5	22.0	17.0	26.0	22.5	26.5	24.0	20.5	20.0	17.5	16.0
23	16.0	13.0	21.5	17.5	25.5	21.5	28.0	23.0	21.0	20.0	18.0	14.5
24	16.0	14.5	20.5	15.0	24.5	19.5	26.5	22.5	21.5	20.0	19.0	15.0
25	17.5	15.0	14.5	11.0	25.0	19.5	22.5	21.5	21.0	19.5	19.5	16.0
26	17.5	15.0	11.5	10.5	25.5	20.0	24.5	21.5	20.5	19.5	20.5	16.5
27	15.5	14.0	13.5	11.0	24.5	21.0	24.5	21.5	20.0	19.0	20.0	17.0
28	13.5	11.5	14.5	13.0	26.0	21.5	24.0	23.0	20.5	19.5	19.5	18.5
29	14.0	11.0	16.5	13.5	25.0	22.0	26.5	22.0	20.5	19.5	21.0	17.5
30	14.0	11.0	17.5	15.0	22.0	20.0	25.0	22.0	22.0	20.0	21.5	18.5
31	---	---	18.0	15.0	---	---	27.0	23.5	23.5	21.0	---	---
MONTH	17.5	3.5	25.5	10.0	27.0	17.5	28.0	17.5	28.0	17.5	23.0	14.5
YEAR	28.0	.0										

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.9	2.9	5.9	4.5	9.9	8.8	12.4	11.4	14.1	9.4	12.8	12.4
2	4.3	2.7	6.9	5.1	9.7	8.2	13.3	11.7	13.7	9.9	13.5	12.9
3	3.4	2.7	6.3	4.7	10.9	8.9	13.7	12.2	13.4	9.5	13.3	11.7
4	3.8	3.1	6.0	4.3	11.3	10.8	13.2	12.9	14.7	9.8	11.9	10.7
5	6.6	3.4	5.2	3.9	11.5	10.8	13.3	12.7	13.8	11.2	11.6	11.4
6	6.3	5.1	5.2	3.4	11.0	9.9	13.0	12.0	13.0	9.7	12.9	12.3
7	6.5	5.3	5.5	3.6	10.2	8.8	12.8	12.2	12.9	9.8	13.3	12.3
8	6.8	5.5	6.6	3.2	10.8	9.1	12.5	11.9	12.7	10.1	13.2	13.0
9	6.6	5.4	8.1	5.0	11.8	10.3	12.7	11.8	13.1	10.3	13.2	12.9
10	6.1	4.9	9.4	4.9	12.3	11.8	12.4	11.2	13.0	10.3	13.6	13.0
11	5.6	4.4	11.9	6.4	12.3	11.5	12.0	11.4	12.4	9.7	13.9	13.5
12	5.2	4.0	7.3	5.9	12.2	11.3	11.7	10.7	13.9	9.4	13.9	13.3
13	4.9	4.1	9.6	5.5	11.7	11.1	11.5	10.4	13.2	9.2	13.2	12.2
14	5.7	4.1	8.7	4.9	12.3	10.9	12.3	9.5	12.5	9.5	13.1	11.5
15	5.8	4.6	7.0	4.4	11.3	10.1	12.8	10.8	11.7	9.1	13.8	13.0
16	6.2	5.0	10.9	5.8	11.1	9.9	11.5	9.4	13.6	9.6	13.8	12.9
17	6.3	5.3	7.8	4.7	11.3	10.3	11.4	8.9	12.4	10.1	12.9	11.8
18	5.9	5.2	8.1	5.5	10.7	9.7	12.6	10.3	12.3	10.2	11.9	11.3
19	5.8	5.0	9.9	7.1	10.3	9.3	12.5	10.1	12.3	8.8	11.3	10.9
20	6.1	4.9	9.9	7.3	10.5	9.0	11.2	9.3	12.6	8.9	11.2	10.7
21	5.7	4.8	8.7	7.8	11.0	8.7	12.8	10.3	11.1	8.4	11.0	10.3
22	4.9	4.2	9.0	7.4	11.3	9.6	13.8	10.4	11.6	8.0	10.6	9.5
23	5.5	4.2	8.6	7.6	11.1	9.6	13.2	9.7	12.9	9.5	9.9	8.5
24	5.9	4.8	9.7	8.1	11.0	9.7	11.1	9.1	12.8	12.7	9.4	8.3
25	5.5	4.7	10.3	8.8	12.0	10.0	13.1	9.4	13.3	12.8	10.9	8.9
26	4.5	3.6	9.5	8.6	11.9	10.3	13.1	9.4	13.4	13.0	12.1	10.3
27	4.8	3.3	11.2	9.0	11.3	10.1	13.1	9.4	13.0	12.5	12.5	10.3
28	5.7	4.4	10.2	7.8	11.0	9.5	14.0	9.3	12.9	12.3	12.5	10.1
29	5.9	4.6	10.9	9.2	11.1	9.3	14.1	9.7	---	---	11.3	10.1
30	6.5	5.4	10.4	9.1	10.3	9.1	13.7	9.5	---	---	10.5	10.0
31	6.3	5.0	---	---	11.0	8.5	13.5	9.2	---	---	10.4	9.9
MONTH	6.8	2.7	11.9	3.2	12.3	8.2	14.1	8.9	14.7	8.0	13.9	8.3

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.9	10.3	11.2	9.0	7.1	6.2	5.5	4.7	6.8	3.3	8.1	7.3
2	11.1	10.3	11.7	7.8	6.8	5.9	5.8	4.4	8.1	6.4	8.4	6.5
3	11.7	10.6	8.7	6.7	7.3	5.5	7.3	4.1	8.3	8.0	6.9	6.1
4	11.5	10.6	9.6	6.9	7.7	5.3	6.8	4.3	8.1	6.5	7.8	6.6
5	11.4	11.1	11.1	7.5	9.6	5.2	8.4	5.3	6.6	5.4	8.1	7.9
6	12.4	11.3	11.1	7.7	10.0	4.6	6.2	4.2	6.3	4.6	8.0	7.1
7	12.5	11.9	11.9	7.3	7.2	5.1	8.8	3.9	5.9	4.3	7.4	7.0
8	11.9	11.3	8.2	5.7	5.7	3.9	6.6	4.9	6.4	3.8	7.6	7.1
9	12.1	11.3	7.6	4.9	5.8	4.2	6.9	5.7	5.2	5.0	7.8	7.2
10	12.2	12.0	6.6	4.1	5.9	4.2	7.6	6.7	5.9	5.0	7.4	6.3
11	12.1	11.7	8.2	4.0	7.5	4.6	6.9	6.4	7.3	5.5	6.5	6.0
12	11.8	10.6	6.1	3.5	8.6	5.1	6.8	5.7	7.6	6.3	7.0	5.9
13	10.5	9.4	7.9	3.7	9.6	5.6	6.1	4.5	6.8	5.6	6.0	5.2
14	9.5	8.9	8.4	5.2	10.0	5.8	7.9	6.0	7.0	5.3	8.2	4.9
15	9.7	8.7	9.2	4.7	11.0	5.8	7.5	6.0	8.9	5.3	8.9	8.0
16	10.3	9.7	12.0	6.1	8.0	5.3	6.0	4.5	8.4	6.0	9.0	8.5
17	11.1	10.2	9.9	6.2	6.9	4.4	4.9	3.9	8.8	6.6	8.8	7.9
18	10.9	10.2	11.2	5.5	6.6	3.8	5.5	3.9	9.9	8.3	7.7	6.5
19	10.5	9.7	9.8	5.0	7.3	3.8	6.0	4.0	9.7	9.0	7.0	6.5
20	10.1	9.0	7.2	4.2	6.9	4.3	12.9	4.8	9.4	8.7	---	---
21	9.1	8.4	7.0	4.4	7.8	2.4	6.4	5.0	9.8	9.3	---	---
22	9.6	8.3	5.9	4.2	8.5	5.0	6.3	4.9	9.9	9.4	---	---
23	9.6	8.1	5.5	4.1	8.3	4.1	8.8	4.9	9.7	9.0	---	---
24	8.9	7.4	6.7	5.1	6.6	4.2	8.3	4.7	9.9	9.5	---	---
25	9.1	7.3	9.9	4.4	7.1	4.2	7.8	5.5	10.5	10.0	---	---
26	9.2	7.0	9.9	[illegible]	5.6	4.1	6.1	4.9	10.3	9.3	---	---
27	9.9	6.9	9.8	9.0	4.5	3.7	8.4	4.4	10.2	9.4	---	---
28	11.1	7.9	9.8	9.0	4.0	3.0	7.7	5.8	9.7	9.0	---	---
29	12.4	8.1	9.5	8.2	4.7	3.0	5.9	4.3	8.9	7.9	---	---
30	12.3	8.5	8.2	7.5	6.1	3.9	4.9	3.7	9.0	7.9	---	---
31	---	---	7.6	7.1	---	---	5.1	3.5	8.7	7.9	---	---
MONTH	12.5	6.9	12.0	3.5	11.0	2.4	12.9	3.5	10.5	3.3	9.0	4.9
YEAR	14.7	2.4										

04191500 AUGLAIZE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°18'15", long 84°23'57", in NE 1/4 sec. 9, T.3 N., R.4 E., Defiance County, Hydrologic Unit 04100007, on right bank 125 ft (38 m) downstream from dam of Toledo Edison Co., 0.2 mi (0.3 km) upstream from Jackson ditch, and 3 mi (5 km) south of Defiance.

DRAINAGE AREA.--2,318 mi² (6,004 km²).

PERIOD OF RECORD.--May to August 1903 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 954: 1941. WSP 1912: Drainage area. WDR OH-72-1: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 659.70 ft (201.077 m) National Geodetic Vertical Datum of 1929. May 20 to Aug. 8, 1903, nonrecording gage at site 1.8 mi (2.9 km) downstream at different datum. April 13, 1915, to Dec. 6, 1933, nonrecording gage near right bank on upstream side of dam at datum 6.00 ft (1.829 m) higher, and auxiliary tailwater staff gage near right bank on downstream side of dam at present datum.

REMARKS.--Records good except those for period of no gage-height record Jan. 3 to Feb. 23, which are poor. Flow regulated by dam at former powerplant 125 ft (38 m) upstream from station; reservoir capacity, 9,800 acre-ft (12.1 hm³), operation of plant discontinued Jan. 10, 1963; occasional gate operation subsequently. Some diversion by Miami and Erie Canal from Grand Lake into Jennings Creek, tributary to Auglaize River 70 mi (113 km) upstream from station. Water-quality data collected at this site 1966 to 1977.

AVERAGE DISCHARGE.--64 years, 1,703 ft³/s (48.23 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,500 ft³/s (1,490 m³/s) Feb. 16, 1950, Feb. 12, 1959, gage height, 26.4 ft (8.05 m), from graph based on hourly powerplant tailwater-gage readings, respectively; maximum gage height, 27.65 ft (8.428 m) Feb. 13, 1959, from flood mark (ice jam); minimum daily discharge, 0.5 ft³/s (0.014 m³/s) Oct. 13, 14, 1952, during repairs to powerplant dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 38.8 ft (11.83 m), from reading on powerplant tailwater gage at present datum; discharge, 120,000 ft³/s (3,400 m³/s), from rating curve extended above 51,000 ft³/s (1,440 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,200 ft³/s (969 m³/s) Mar. 5, gage height, 21.82 ft (6.651 m); minimum daily, 31 ft³/s (0.88 m³/s) Nov. 19, 20, result of gate operations.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	660	125	1140	175	4690	4290	1070	1400	1970	1570	2420
2	60	67	129	3770	175	5090	3690	870	1200	2010	7460	1710
3	62	46	118	5000	170	6350	1810	766	980	1250	6740	1390
4	64	46	259	4100	165	14400	2030	729	800	756	4560	766
5	69	45	587	3000	160	26000	2950	720	620	527	2540	1770
6	82	46	843	2100	160	27600	4520	668	501	428	1210	2160
7	62	42	923	1400	155	20500	3600	619	635	384	1020	1340
8	69	42	809	1050	155	11600	2680	557	961	307	817	860
9	82	288	747	860	155	6910	2890	509	1630	476	1120	619
10	80	270	711	740	150	5060	3740	459	1420	1350	1950	476
11	80	259	685	650	150	4480	3710	420	1170	2640	2600	355
12	82	247	720	570	150	3690	5190	391	800	1950	1820	288
13	77	242	668	510	150	2760	6700	420	564	1070	1060	253
14	72	230	527	460	145	1880	12300	459	406	826	660	253
15	111	80	384	420	145	2030	17700	518	321	860	459	627
16	105	32	282	380	145	2160	21500	518	247	1020	327	1410
17	102	32	242	350	145	1850	14000	492	207	756	264	1520
18	99	33	230	320	150	1530	6630	451	176	509	242	1050
19	102	31	191	300	150	1770	2520	398	166	341	264	668
20	87	31	162	280	155	877	2140	348	176	247	1180	459
21	90	32	166	265	160	1770	1750	314	201	191	2690	327
22	82	33	186	250	180	2050	1630	301	264	162	2320	259
23	64	35	144	240	643	1650	1370	270	341	148	1890	212
24	74	38	140	230	4480	1390	1120	321	451	157	2630	185
25	80	38	150	220	9400	1190	989	1320	377	201	2100	165
26	77	38	160	210	10400	999	942	4500	270	834	1920	144
27	90	46	120	200	7980	809	1100	6500	207	1550	826	136
28	74	108	105	195	5970	747	1150	5400	166	1080	1140	132
29	87	132	110	190	---	3230	1300	3900	201	729	1410	122
30	85	132	129	185	---	5640	1310	2500	694	635	2920	118
31	80	---	196	180	---	5960	---	1700	---	685	3930	---
TOTAL	2492	3402	10948	29765	42318	176662	137261	38408	17552	26049	61639	22186
MEAN	80.4	113	353	960	1511	5699	4575	1239	585	840	1988	740
MAX	111	660	923	5000	10400	27600	21500	6500	1630	2640	7460	2420
MIN	60	31	105	180	145	747	942	270	166	148	242	118

CAL YR 1978 TOTAL 682663 MEAN 1870 MAX 38700 MIN 13
WTR YR 1979 TOTAL 568682 MEAN 1558 MAX 27600 MIN 31

04192500 MAUMEE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°17'30", long 84°16'52", in NW 1/4 sec. 22, T.4 N., R.5 E., Defiance County, Hydrologic Unit 04100009, on left bank 40 ft. (12 m) upstream from Independence Dam, 4 mi (6 km) downstream from mouth of Auglaize River, and 4.5 mi (7.2 km) east of Defiance.

DRAINAGE AREA.--5,545 mi² (14,362 km²).

PERIOD OF RECORD.--October 1924 to December 1935, March 1939 to September 1974, October 1978 to current year.

REVISED RECORDS.--WSP 974: 1926-27, 1930. WSP 1387: 1925-28, 1946. WRD Ohio, 1970: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 658.56 ft (200.729 m), National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good, except those for winter period, which are fair. Flow affected by occasional regulation by Toledo Edison Co. dam on Auglaize River, 7 mi (11 km) upstream. Operation of hydroelectric plant there discontinued Jan. 10, 1963. Low flow slightly regulated by powerplant at Ft. Wayne, Indiana. Slight diversion 275 ft (83.8 m) upstream into Miami and Erie Canal through a 24 in (610 mm) conduit which bypasses station.

AVERAGE DISCHARGE.--47 years, 4,064 ft³/s (115.1 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,100 ft³/s (2,470 m³/s) Feb. 16, 1950, gage height, 13.70 ft (4.176 m); maximum gage height, 13.77 ft (4.197 m) Feb. 11, 1959 (ice jam); minimum discharge, 2 ft³/s (0.057 m³/s) Sept. 3, 1925; minimum gage height, 1.09 ft (0.332 m) Sept. 26, 1928.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft³/s (651 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage (ft)	(m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	(m)
Mar. 6	0100	*54500	1540	*9.47	2.886	Apr. 16	1600	33700	954	6.96	2.121

Minimum discharge, 162 ft³/s (4.588 m³/s) Oct. 5

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248	770	506	4020	510	9720	17000	3140	3390	4280	1970	4880
2	237	250	503	8600	500	12500	13400	2880	2930	5060	9770	3540
3	289	280	1160	10000	485	14800	10300	2690	2310	3860	12400	2800
4	304	210	2340	8400	470	25700	8490	2840	1800	3160	9750	2290
5	244	198	3620	5600	450	45600	9140	3090	1470	2180	7280	2570
6	254	211	3420	4300	440	50100	10500	3210	1320	1930	4580	3050
7	225	228	2600	3400	430	40800	9750	3240	1260	1630	3690	2220
8	247	365	3160	2800	420	31500	8050	3140	1570	1170	3110	1600
9	235	434	3410	2500	410	25400	9440	2660	2340	1410	3190	1110
10	250	412	3010	2300	400	21900	11600	2380	2440	2230	3930	929
11	254	407	2340	2050	390	18800	12400	2160	2270	3750	4870	815
12	268	408	2030	1800	385	14400	12900	1750	1880	3340	4590	705
13	268	395	1450	1650	375	10300	16100	1910	1410	2470	2870	600
14	280	427	1280	1500	365	8080	24000	1950	1170	1920	1890	628
15	316	318	1100	1400	360	8160	29600	1910	937	2050	1490	851
16	349	708	918	1300	355	7610	32800	2620	814	1900	1070	1710
17	302	603	841	1200	350	6430	27400	1990	680	1470	849	1980
18	313	493	735	1100	345	5530	18000	1740	584	1030	1110	1540
19	308	686	604	1000	340	5990	12000	1420	545	769	2000	1100
20	413	577	583	940	345	5730	8130	1270	556	664	2940	989
21	336	564	750	980	350	5500	6250	1200	824	572	6400	878
22	266	448	385	920	360	6020	5070	1170	1330	501	6360	744
23	248	412	544	770	500	5230	4040	1070	1380	446	5020	640
24	264	400	554	720	2000	4610	3340	1190	1290	395	8750	555
25	272	444	588	680	12000	4190	2890	3150	1020	421	8790	527
26	272	451	438	640	13900	3650	2730	11000	797	1230	5720	419
27	255	492	447	620	12100	3100	2690	15800	610	2450	3250	390
28	238	514	352	600	10300	2740	2910	13600	523	2120	2610	414
29	272	485	404	570	---	6370	3040	8950	504	1490	2550	367
30	266	506	457	550	---	16400	3320	5050	1600	1250	3700	374
31	243	---	719	530	---	19900	---	3840	---	1240	5990	---
TOTAL	8536	13016	41248	73240	59635	446760	337300	114010	41554	58388	141459	41213
MEAN	275	434	1331	2363	2130	14410	11240	3678	1385	1883	4564	1374
MAX	413	770	3620	10000	13900	50100	32800	15800	3390	5060	12400	4880
MIN	225	198	352	530	340	2740	2690	1070	504	395	849	367

WTR YR 1979 TOTAL 1376389 MEAN 3771 MAX 50100 MIN 198

04193490 MAUMEE RIVER NEAR WATERVILLE, OH

LOCATION.--Lat 41°28'34", long 83°44'20", Lucas County, Hydrologic Unit 04100009, in Bowling Green water-treatment plant, 2.0 mi (3.2 km) upstream from discharge station at Waterville.

DRAINAGE AREA.--6,313 mi² (16,351 km²).

PERIOD OF RECORD.--Water years 1950 to 1976 (published as Maumee River at Waterville). 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1963 to current year.
pH: May 1963 to current year.
WATER TEMPERATURES: March 1950 to current year.
DISSOLVED OXYGEN: May 1963 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1963. Prior to June 1974 water-quality monitor located in water-treatment plant 2,500 ft (762 m) upstream from discharge station. Prior to May 1963 alcohol-actuated thermograph located at discharge station.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to October 1976, records published as 04193500, Maumee River at Waterville, Ohio. See records of daily discharge for gaging station at Waterville (04193500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,260 micromhos Feb. 16, 1977; minimum, 213 micromhos Jan. 30, 1952.
pH: Maximum, 11.4 units Jan. 16, 1965; minimum, 5.0 units Nov. 24, 1968.
WATER TEMPERATURES: Maximum, 30.0°C July 1, 1963; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 19.3 mg/L Sept. 25, 1979; minimum, 0.3 mg/L Nov. 10, 1965.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,150 micromhos Feb. 22; minimum, 249 micromhos Mar. 6.
pH: Maximum recorded, 9.4 units Nov. 3; minimum recorded, 6.8 units Mar. 8.
WATER TEMPERATURES: Maximum, 29.0°C July 16, 22; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 19.3 mg/L Sept. 25; minimum recorded, 6.4 mg/L July 15.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	675	666	738	732	927	918	714	666	792	777	354	303
2	681	663	744	735	927	921	732	681	804	786	315	297
3	681	666	747	738	921	900	756	576	825	804	315	282
4	669	663	747	741	903	870	720	594	846	825	279	252
5	666	654	741	735	851	822	758	726	870	846	294	258
6	663	651	738	723	816	756	753	705	903	870	267	249
7	654	639	804	738	834	771	705	681	930	906	273	255
8	657	654	759	747	813	714	691	663	948	930	306	273
9	660	654	762	755	780	732	666	642	978	948	339	305
10	657	654	774	762	822	780	642	618	999	972	381	339
11	660	654	786	774	828	786	621	612	1010	999	405	351
12	666	657	798	789	783	708	612	600	1020	1010	447	408
13	669	666	807	798	702	666	603	594	1020	1010	474	447
14	675	672	1030	795	681	666	603	594	1040	1020	495	474
15	678	672	819	816	693	681	609	600	1050	1040	513	495
16	681	675	---	---	705	690	630	606	1060	1050	531	498
17	681	678	---	---	708	702	642	633	1070	1060	546	522
18	690	681	---	---	714	705	651	642	1090	1070	573	549
19	699	687	---	---	723	711	659	651	1110	1090	597	575
20	702	693	855	845	741	723	684	666	1130	1110	594	552
21	705	699	885	855	747	729	699	587	1130	1130	606	596
22	711	705	885	879	747	735	705	699	1150	1130	615	606
23	720	702	882	870	747	741	711	705	1130	750	615	609
24	729	717	882	870	753	744	720	711	909	654	624	618
25	738	729	885	882	750	741	732	720	819	615	627	621
26	735	729	891	882	747	738	741	732	876	507	639	624
27	735	729	891	885	747	741	747	744	501	453	645	633
28	735	723	906	891	759	747	747	744	447	357	654	645
29	741	735	921	900	759	750	756	747	---	---	678	648
30	738	732	924	912	753	744	755	753	---	---	639	597
31	735	726	---	---	744	708	777	765	---	---	603	528
MONTH	741	639	1030	723	927	666	777	576	1150	357	678	249

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	525	522	672	563	672	663	576	504	639	621	579	501
2	552	528	681	569	672	663	621	558	660	582	603	582
3	573	552	693	678	681	669	648	594	615	528	612	582
4	585	570	693	681	684	672	600	576	534	423	579	534
5	594	576	681	669	681	675	621	573	420	387	531	510
6	597	573	666	542	684	675	645	624	411	399	537	515
7	621	594	657	524	681	669	654	645	465	414	564	529
8	639	624	648	524	675	666	657	651	462	453	579	564
9	636	600	639	618	672	654	657	612	495	447	591	579
10	600	558	627	609	678	657	603	417	489	438	609	594
11	573	555	618	600	684	650	558	420	489	477	603	597
12	594	573	618	600	699	684	615	558	507	468	597	593
13	591	486	624	512	702	699	642	615	525	507	594	598
14	474	375	636	521	717	702	642	639	546	525	594	582
15	393	369	660	533	735	711	657	642	546	531	579	564
16	408	390	642	627	729	702	653	657	531	519	585	558
17	399	381	642	621	714	696	653	633	522	513	561	555
18	444	399	642	618	708	693	633	619	516	480	567	564
19	489	447	630	597	702	681	624	621	510	459	570	555
20	513	492	618	600	696	650	621	612	501	456	555	489
21	534	516	627	600	684	669	618	603	504	447	504	485
22	546	534	642	509	678	663	603	558	555	474	513	483
23	567	543	645	509	690	648	585	534	582	486	522	492
24	591	567	639	524	675	657	549	543	594	516	519	489
25	603	591	678	533	690	675	570	549	513	465	519	477
26	615	603	654	503	684	675	573	567	486	435	519	485
27	630	612	630	506	678	672	547	570	435	432	525	495
28	648	627	639	518	672	648	595	561	468	435	537	489
29	660	645	666	530	648	606	576	564	486	453	537	522
30	666	657	672	566	615	543	588	579	459	423	543	525
31	---	---	672	560	---	---	618	588	495	459	---	---
MONTH	666	369	693	597	735	543	653	417	660	387	612	477
YEAR	1150	249										

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.1	8.9	9.3	9.2	8.3	8.2	8.1	7.8	7.5	7.5	7.3	7.1
2	9.1	9.0	9.3	9.2	8.3	8.2	8.0	7.9	7.5	7.5	7.2	7.0
3	9.0	8.9	9.4	8.8	8.2	7.9	8.0	7.9	7.5	7.4	7.2	7.0
4	9.0	8.9	9.2	8.8	8.1	8.0	8.0	7.8	7.5	7.5	7.6	7.2
5	9.1	8.9	9.3	9.1	8.1	8.1	7.8	7.2	7.5	7.5	7.6	7.5
6	9.0	8.8	9.1	8.7	8.1	7.9	7.7	7.6	7.5	7.5	7.6	7.4
7	9.1	8.8	9.2	8.8	8.1	7.6	7.6	7.6	7.5	7.5	7.4	7.2
8	9.1	8.9	9.1	8.5	8.1	7.7	7.6	7.5	7.5	7.5	7.3	6.8
9	9.1	9.0	9.1	9.0	8.1	8.0	7.6	7.4	7.5	7.5	7.0	6.9
10	9.1	9.0	9.1	9.0	8.1	8.0	7.5	7.5	7.5	7.5	7.3	6.9
11	9.1	9.1	9.1	9.0	8.2	8.1	7.5	7.4	7.6	7.5	7.7	7.4
12	9.1	9.0	9.0	8.9	8.2	8.2	7.5	7.4	7.6	7.4	7.7	7.4
13	9.1	9.0	8.9	8.8	8.1	8.0	7.4	7.4	7.7	7.3	7.7	7.6
14	9.1	9.0	8.9	8.7	8.0	8.0	7.5	7.4	7.7	7.5	7.9	7.6
15	9.1	9.0	8.7	8.7	8.1	7.9	7.5	7.4	7.6	7.5	7.9	7.7
16	9.0	9.0	---	---	8.0	8.0	7.5	7.4	7.7	7.6	7.9	7.8
17	9.2	9.0	---	---	8.0	7.9	7.5	7.3	8.0	7.6	7.9	7.7
18	9.2	9.1	---	---	8.1	7.9	7.4	7.4	8.0	7.8	7.8	7.6
19	9.2	9.0	---	---	8.2	8.0	7.4	7.3	8.1	7.8	7.9	7.7
20	9.3	9.0	8.6	8.5	8.2	8.0	7.4	7.3	7.8	7.7	8.0	7.9
21	9.3	9.1	8.7	7.5	8.1	8.0	7.4	7.2	7.7	7.6	8.1	7.9
22	---	9.2	8.7	8.5	8.2	8.1	7.4	7.4	7.7	7.6	8.0	7.9
23	---	9.2	8.6	8.4	8.3	8.2	7.4	7.4	7.7	7.5	---	---
24	---	9.2	8.5	8.4	8.3	8.1	7.4	7.2	7.7	7.4	---	---
25	9.3	9.2	8.5	8.2	8.3	8.1	7.5	7.4	7.6	7.4	---	---
26	9.3	9.1	8.4	8.2	8.3	8.1	7.4	6.9	7.6	7.5	---	---
27	9.3	9.1	8.2	8.1	8.3	8.1	7.1	7.0	7.6	7.2	---	---
28	9.3	9.1	8.3	8.1	8.3	8.1	7.1	7.0	7.3	7.0	---	---
29	9.3	9.2	8.3	8.1	8.2	8.1	7.3	7.1	---	---	---	---
30	9.3	9.1	8.3	8.2	8.2	8.1	7.4	7.3	---	---	---	---
31	9.3	9.2	---	---	8.4	8.1	7.5	7.4	---	---	---	7.1
MONTH	9.3	8.8	9.4	7.5	8.4	7.6	8.1	6.9	8.1	7.0	8.1	6.8

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1							---	---	8.8	8.1	8.0	7.8
2							7.8	7.7	8.6	8.1	8.0	7.9
3							7.9	7.7	8.1	8.0	8.0	7.9
4							7.8	7.7	8.0	7.9	7.9	7.9
5							7.8	7.5	8.0	7.9	8.0	7.9
6							7.9	7.7	8.1	8.0	8.1	7.9
7							7.9	7.7	8.2	8.1	8.4	8.1
8							8.0	7.8	8.2	8.1	8.4	8.2
9							7.9	7.8	8.3	8.2	8.5	8.3
10							7.8	7.5	8.2	8.1	8.6	8.4
11							8.2	7.7	8.3	8.2	8.6	8.4
12							8.3	8.1	8.2	8.1	8.6	8.3
13							8.4	8.1	8.3	8.2	8.7	8.4
14							8.3	8.1	8.4	8.2	8.6	8.5
15							8.3	8.1	8.3	8.2	8.6	8.5
16							8.4	8.1	8.3	8.2	8.6	8.2
17							8.6	8.0	8.4	8.2	8.5	8.2
18							8.4	8.0	8.3	7.8	8.8	8.4
19							8.4	8.1	7.8	7.7	9.0	8.8
20							8.5	8.2	7.8	7.7	9.2	8.9
21							8.6	8.4	7.8	7.7	9.0	8.8
22							8.7	8.4	7.9	7.7	9.0	8.9
23							8.8	8.1	7.9	7.7	9.0	8.8
24							8.5	8.2	8.0	7.9	9.0	8.7
25							8.9	7.4	7.8	7.8	9.2	8.6
26							8.7	7.5	7.8	7.7	9.0	8.5
27							8.9	8.7	7.7	7.7	9.0	8.4
28							9.1	8.7	7.8	7.7	8.8	7.8
29							9.1	8.8	7.8	7.6	8.7	8.1
30							8.9	8.6	7.7	7.6	9.1	8.3
31							8.9	8.5	7.8	7.7	---	---
MONTH							9.1	7.4	8.8	7.6	9.2	7.8
YEAR	9.4	6.8										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.0	17.0	11.0	10.0	3.0	2.0	1.0	.5	.5	.5	.5	.0
2	19.0	16.5	11.5	10.5	2.5	2.5	.5	.5	.5	.5	.5	.0
3	17.0	16.0	12.0	10.5	3.0	2.5	.5	.5	.5	.5	.5	.5
4	16.0	15.5	12.5	11.0	3.5	2.0	.5	.5	.5	.5	.5	.5
5	15.5	14.5	13.0	11.5	1.5	1.0	.5	.5	.5	.5	.5	.5
6	14.5	13.5	12.5	11.5	2.0	1.5	.5	.5	.5	.5	1.0	.5
7	13.5	12.5	12.0	11.5	2.0	2.0	.5	.5	.5	.5	2.0	1.0
8	13.0	12.0	11.5	10.0	2.5	2.0	.5	.5	.5	.5	3.0	2.0
9	12.5	11.5	10.5	9.5	2.0	.5	.5	.5	.5	.5	2.5	2.5
10	13.5	11.5	10.0	9.5	.5	.0	.5	.5	.5	.5	3.0	2.0
11	13.0	12.5	10.5	9.0	.5	.5	.5	.5	.5	.5	2.0	1.0
12	14.0	13.0	10.0	9.5	.5	.5	.5	.5	.5	.5	2.0	1.0
13	14.5	13.5	10.0	9.5	.5	.5	.5	.5	.5	.5	3.0	1.5
14	14.0	13.0	11.0	10.0	.5	.5	.5	.5	.5	.5	3.0	2.0
15	13.0	12.5	10.0	10.0	.5	.5	.5	.5	.5	.5	1.5	1.0
16	12.5	11.0	---	---	.5	.5	.5	.5	.5	.5	3.0	1.0
17	12.0	10.0	---	---	.5	.5	.5	.5	.5	.5	4.0	2.0
18	11.0	10.5	---	---	.5	.5	.5	.5	.5	.5	6.0	3.5
19	11.0	10.0	---	---	1.5	.5	.5	.5	.5	.5	6.0	5.0
20	12.0	10.0	6.0	5.5	.5	.5	.5	.5	.5	.0	6.5	5.0
21	12.5	11.0	7.5	5.0	1.0	.5	.5	.5	.5	.5	8.0	5.5
22	13.5	12.0	5.0	4.5	.5	.5	.5	.5	.5	.0	9.0	7.0
23	13.5	12.0	5.5	5.0	1.0	.5	.5	.5	.5	.5	9.5	8.0
24	12.5	11.5	5.5	5.0	1.0	.5	.5	.5	.5	.0	9.5	8.5
25	12.0	11.0	5.0	4.5	1.0	.5	.5	.5	.5	.5	8.5	6.5
26	12.0	11.0	4.5	4.0	.5	.5	.5	.5	.5	.5	6.5	5.0
27	11.5	10.5	4.0	3.0	.5	.5	.5	.5	.5	.5	6.0	4.0
28	11.5	10.0	3.0	2.0	.5	.5	.5	.5	.5	.0	6.0	5.0
29	11.0	10.0	2.5	2.0	.5	.5	.5	.5	---	---	7.5	6.0
30	11.0	10.0	2.5	1.5	.5	.5	.5	.5	---	---	8.0	7.0
31	13.0	10.5	---	---	.5	.5	.5	.5	---	---	8.0	8.0
MONTH	19.0	10.0	13.0	1.5	3.5	.0	1.0	.5	.5	.0	9.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.5	14.0	11.0	19.0	16.0	19.0	18.0	27.5	26.0	25.0	23.0
2	8.0	7.0	15.5	13.0	20.0	17.5	19.5	18.0	26.0	24.5	25.0	23.5
3	9.0	7.0	15.0	14.5	21.5	19.0	22.0	19.0	25.5	24.0	24.5	23.5
4	8.0	5.5	14.5	12.5	23.0	20.5	21.5	20.0	25.0	23.5	25.0	23.5
5	6.5	5.0	15.0	12.0	22.5	21.5	22.0	19.0	25.0	23.5	25.0	23.5
6	6.0	3.5	16.5	14.0	22.5	21.0	23.0	20.0	25.0	23.5	26.0	24.0
7	5.5	3.5	18.0	15.0	23.5	22.5	23.5	21.5	27.5	24.5	24.5	23.0
8	5.0	4.5	20.5	17.5	24.0	22.5	23.5	22.0	27.0	26.0	22.5	20.5
9	4.5	4.0	22.0	19.5	27.0	24.0	23.5	22.5	27.0	25.5	21.5	20.0
10	6.0	3.5	23.0	21.5	26.5	23.5	23.0	21.0	26.0	25.0	22.5	20.5
11	5.0	4.5	24.5	22.5	23.5	21.0	24.5	22.5	25.0	23.0	22.5	21.0
12	7.0	4.5	24.0	19.5	23.5	21.5	25.5	23.5	24.0	21.5	21.5	20.5
13	8.0	7.0	20.5	18.5	24.0	22.5	26.0	24.5	23.5	22.0	22.5	21.0
14	9.0	7.0	21.5	19.0	25.0	22.5	27.5	25.5	23.5	22.0	22.0	20.5
15	9.0	8.0	21.0	19.5	26.0	23.5	28.5	25.5	22.5	20.5	20.5	19.5
16	8.5	8.0	21.0	18.5	27.0	25.0	29.0	27.0	21.5	20.0	20.0	18.5
17	9.5	8.0	21.5	19.0	27.0	25.5	28.0	25.0	22.0	21.0	21.0	19.0
18	10.5	8.5	21.5	19.5	26.0	24.0	27.0	24.5	21.0	19.5	21.0	20.0
19	11.5	9.0	22.5	20.5	25.0	23.5	26.0	25.0	22.0	20.0	21.0	18.5
20	13.0	10.0	22.5	21.0	25.0	23.0	25.5	25.5	21.5	20.5	19.5	18.0
21	12.0	11.5	22.0	21.0	26.0	23.5	27.0	25.0	22.5	20.5	19.5	18.5
22	13.5	12.0	22.0	20.5	26.5	24.5	29.0	25.5	22.0	21.5	18.5	16.5
23	15.5	12.5	21.0	19.5	25.5	23.5	28.5	26.5	23.0	21.0	17.0	16.0
24	15.0	14.0	20.0	16.0	24.0	22.0	27.5	26.5	23.0	21.5	18.5	16.0
25	16.5	15.0	16.0	12.0	23.5	21.5	26.5	26.0	22.5	21.0	20.0	16.5
26	16.5	16.0	12.5	11.5	25.0	22.5	26.0	25.0	22.0	21.5	20.5	18.0
27	15.5	14.0	14.0	12.0	24.5	23.0	28.0	25.5	22.0	21.0	19.5	18.0
28	15.0	13.0	14.0	12.5	25.0	24.0	28.0	25.5	22.5	21.0	19.5	18.5
29	13.5	12.5	16.0	13.0	25.0	23.5	27.5	26.0	22.5	21.5	20.0	18.5
30	13.0	12.0	15.5	15.0	23.5	19.5	27.5	26.5	23.5	20.5	21.5	19.0
31	---	---	16.0	15.0	---	---	28.0	26.0	24.5	22.0	---	---
MONTH	16.5	3.5	24.5	11.0	27.0	16.0	29.0	18.0	27.5	19.5	26.0	16.0
YEAR	29.0	.0										

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.8	7.6	11.3	10.4	13.1	12.0	14.8	13.7	11.3	10.9	12.0	11.1
2	10.8	7.9	11.6	10.3	13.1	12.4	14.3	13.4	11.3	11.0	11.7	11.5
3	8.0	7.5	12.5	10.6	12.6	12.1	14.4	14.1	11.4	11.0	11.8	11.6
4	8.8	7.4	11.8	10.1	12.4	11.9	14.1	13.8	11.3	11.1	11.8	11.0
5	9.1	7.6	10.6	9.7	13.1	12.2	13.9	13.5	11.3	10.9	11.4	10.9
6	10.1	8.1	9.8	8.9	13.3	12.6	13.5	13.2	11.5	11.0	11.8	11.1
7	10.8	8.8	10.0	9.5	14.4	13.1	13.1	12.9	11.5	11.1	12.1	11.9
8	10.9	9.6	9.9	9.1	14.0	13.0	12.8	12.6	11.4	10.9	12.3	12.1
9	11.0	9.8	10.4	9.1	17.2	13.7	12.7	12.6	11.4	10.9	12.3	10.9
10	11.4	10.1	10.5	9.7	17.5	14.2	12.6	12.5	11.5	11.1	12.0	11.0
11	10.8	9.9	10.9	9.5	17.8	16.8	12.5	12.4	11.7	11.3	11.7	11.1
12	9.9	9.0	10.0	9.2	17.9	15.3	12.5	12.2	11.7	11.3	14.5	11.0
13	10.1	8.6	10.3	8.8	17.4	14.0	12.2	12.0	11.7	11.0	13.4	13.0
14	9.6	8.9	11.1	9.7	14.6	14.0	12.0	11.8	11.3	10.9	12.9	12.8
15	9.5	8.6	10.2	10.2	14.6	14.3	11.9	11.5	11.2	10.6	13.1	12.7
16	8.7	8.2	---	---	14.4	14.3	11.9	11.6	11.1	10.7	12.9	12.5
17	9.6	8.2	---	---	14.4	14.1	11.9	11.5	11.0	10.6	12.7	12.3
18	10.9	8.5	---	---	14.6	14.2	11.7	11.5	11.1	10.8	12.3	11.9
19	11.4	8.9	---	---	14.9	14.3	11.5	11.2	11.5	11.0	11.9	11.6
20	11.6	10.1	13.1	12.1	15.1	14.2	11.2	11.1	11.2	10.9	11.7	11.4
21	11.2	10.4	13.1	11.8	14.4	14.1	11.1	10.9	11.2	10.4	11.5	10.8
22	---	---	13.9	11.8	15.1	14.0	10.9	10.7	11.0	10.4	11.4	10.7
23	---	---	13.4	12.2	15.7	14.9	10.9	10.7	11.7	10.6	11.2	10.8
24	---	---	12.5	11.8	15.9	14.9	11.1	10.7	12.3	11.4	10.9	10.6
25	10.6	9.7	13.4	11.5	15.8	14.8	11.1	10.9	11.5	11.1	11.4	10.8
26	10.5	9.5	13.3	12.1	15.7	14.8	11.0	10.8	12.2	11.3	12.0	11.2
27	10.6	9.4	12.4	12.1	15.7	14.6	11.2	10.9	11.8	11.0	12.4	11.6
28	11.1	9.7	12.7	12.2	16.2	15.2	11.2	10.9	13.2	11.0	12.4	11.8
29	11.1	10.1	12.7	11.8	16.2	15.4	11.1	10.9	---	---	11.9	11.2
30	11.4	10.1	12.3	11.9	16.3	15.3	11.1	10.9	---	---	11.3	11.0
31	11.6	10.5	---	---	16.2	14.9	11.2	10.9	---	---	11.0	10.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.8	10.6	---	---	8.5	8.2	7.4	6.9	---	---	8.1	7.4
2	10.9	10.8	---	---	---	---	8.1	7.3	8.1	6.8	8.5	7.4
3	11.1	10.9	---	---	---	---	7.9	7.3	7.9	6.6	8.0	7.4
4	11.4	11.0	---	---	---	---	7.7	7.2	7.5	7.1	8.0	7.2
5	11.5	11.3	---	---	10.3	8.2	7.8	7.4	7.6	6.8	8.1	7.5
6	12.0	11.4	---	---	---	---	7.8	7.2	8.2	7.0	8.3	7.2
7	12.2	11.9	---	---	---	---	7.7	7.0	8.0	7.4	9.4	7.4
8	12.0	11.8	---	---	9.9	7.0	7.8	7.1	7.4	7.0	10.0	8.1
9	11.8	11.7	---	---	9.4	7.2	7.9	7.3	7.3	6.8	10.7	8.5
10	11.9	11.6	---	---	---	---	7.5	7.0	7.6	6.9	11.1	9.0
11	11.8	11.5	---	---	9.3	6.8	8.5	6.8	8.1	7.3	10.9	9.1
12	11.6	11.3	---	---	9.7	7.2	8.9	7.5	8.2	7.6	10.2	8.7
13	11.3	10.7	---	---	---	---	8.2	6.8	8.4	7.8	11.5	9.5
14	10.6	9.6	---	---	---	---	8.5	6.5	8.6	7.6	10.3	8.7
15	9.9	9.6	---	---	---	---	8.1	6.4	8.8	7.8	10.9	8.7
16	10.2	9.9	12.6	8.4	---	---	8.6	6.5	9.4	8.2	10.8	8.1
17	10.4	10.2	13.2	9.2	---	---	11.3	6.9	9.7	8.2	9.9	8.3
18	10.5	10.2	13.0	9.2	---	---	9.8	7.3	8.8	8.0	11.5	8.4
19	10.3	10.1	13.2	9.2	---	---	9.5	7.5	8.1	7.7	13.3	9.3
20	10.1	9.8	13.0	9.0	---	---	10.4	7.2	8.0	7.5	16.8	10.9
21	9.9	9.7	12.4	8.6	---	---	10.0	8.2	8.1	7.7	15.8	11.8
22	9.8	9.6	12.1	7.8	---	---	---	---	8.1	7.6	13.3	10.8
23	9.7	9.3	11.7	7.6	---	---	---	---	8.2	7.5	13.6	12.1
24	9.6	9.1	10.1	7.0	---	---	---	---	8.5	7.5	17.2	12.4
25	---	---	8.9	8.1	10.2	8.1	---	---	7.8	7.6	19.3	11.8
26	---	---	8.6	8.5	12.7	8.4	---	---	7.6	7.3	16.9	11.5
27	---	---	8.9	8.6	11.9	9.3	---	---	7.5	7.3	17.1	8.9
28	---	---	9.0	8.7	11.7	8.7	---	---	7.5	7.3	16.5	7.1
29	---	---	9.7	8.3	13.6	8.3	---	---	7.6	7.2	15.6	8.5
30	---	---	8.4	8.3	8.1	6.8	---	---	7.4	7.2	18.5	11.7
31	---	---	8.9	8.3	---	---	---	---	7.7	7.3	---	---
MONTH	12.2	9.1	13.2	7.0	13.6	6.8	11.3	6.4	9.7	6.6	19.3	7.1
YEAR	19.3	6.4										

04193500 MAUMEE RIVER AT WATERVILLE, OH

(National stream quality accounting network station)

LOCATION.--Lat 41°30'00", long 83°42'46", Lucas County, Hydrologic Unit 04100009, on downstream side of first pier from left end of bridge on State Highway 64 at Waterville, 3 mi (5 km) downstream from Tontogany Creek, and 20.7 mi (33.3 km) upstream from mouth.

DRAINAGE AREA.--6,330 mi² (16,395 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to December 1901, August 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 894: 1930(M). WSP 1084: 1946. WSP 1387: 1900(M), 1922-23, 1933. WDR OH-68-1: 1967. WDR OH-70-1: Drainage area. 70-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 595.71 ft (181.572 m) National Geodetic Vertical Datum of 1929. Nov. 19, 1898, to Dec. 31, 1901, Aug. 26, 1921 to July 31, 1930, nonrecording gage, Aug. 1, 1930 to Dec. 31, 1935, water-stage recorder, Mar. 14, 1939 to Mar. 12, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow slightly regulated by powerplants upstream from station. Small diversion upstream from gage into Portage River basin (see station 04195500).

AVERAGE DISCHARGE.--54 years (1921-35, 1939-79) 4,818 ft³/s (136.4 m³/s), 10.33 in/yr (262 mm/yr): includes flow in Miami and Erie Canal at Waterville 1922-29; canal was abandoned in 1929 and was filled in prior to March 1939.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s (2,660 m³/s) Feb. 16, 1950, gage height, 14.52 ft (4.426 m); maximum gage height, 16.17 ft (4.929 m) Feb. 12, 1959 (ice jam); practically no flow at times prior to June 30, 1929, when entire river flow was being diverted by canal; minimum daily since canal was abandoned, 26 ft³/s (0.74 m³/s) Oct. 24, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.9 ft (6.07 m), from information by local resident, estimated discharge, 180,000 ft³/s (5,100 m³/s), from rating curve extended above 94,000 ft³/s (2,660 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57,600 ft³/s (1,631 m³/s) Mar. 5, gage height, 12.06 ft (3,676 m); minimum daily, 172 ft³/s (4.87 m³/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	251	471	6540	600	10900	19300	3620	5020	9830	1800	5880
2	223	822	485	10500	580	12900	15400	3420	4280	9200	5800	4280
3	214	325	879	11200	560	14500	12400	3450	3650	8200	12900	3190
4	325	242	2320	9250	540	23800	9340	3250	2900	5200	10500	2660
5	271	232	3280	5520	520	45500	10800	3590	2240	3900	8240	2110
6	314	197	4090	4220	500	53400	12000	3650	1980	3000	5800	3000
7	205	197	3320	3500	480	44000	11000	3650	1930	2300	3990	2630
8	172	261	3480	3000	460	34400	9110	3550	2180	2000	3350	1950
9	197	406	4250	2750	450	27100	11700	3250	3030	3400	3550	1460
10	197	419	3500	2400	430	23300	13700	2780	3960	4500	4220	1130
11	205	458	3000	2150	420	20200	13400	2660	3350	5600	4580	879
12	261	406	2000	1950	410	15900	13300	2270	2900	5000	5150	860
13	261	471	1700	1800	400	11700	17000	2110	2380	4000	4030	733
14	223	822	1390	1550	400	9110	30500	2270	2080	3000	2570	978
15	303	370	1200	1500	390	8150	36100	2460	1780	3300	1660	1130
16	271	394	1100	1400	380	8020	34800	2550	1410	3000	1390	1460
17	347	1040	980	1300	380	6950	29400	2900	1330	2400	1090	2050
18	303	768	850	1200	390	6140	19600	2430	978	1900	2490	1950
19	336	444	750	1100	390	6370	13900	2240	822	1400	4610	1350
20	251	733	700	1050	400	7560	8670	1930	918	1100	3420	1130
21	394	649	958	1000	410	5950	7190	1900	1270	900	4220	999
22	325	501	601	940	420	6760	5690	1730	1780	720	7280	822
23	232	586	541	880	470	6140	4850	2030	2000	600	5800	768
24	223	586	682	820	4500	5550	3990	2180	1730	520	5910	682
25	251	336	698	780	8600	4850	3690	5690	1520	560	9700	595
26	281	359	649	740	13000	4380	3350	16000	1290	733	5870	498
27	281	541	485	700	15000	3620	3280	21500	1040	1900	4610	394
28	197	641	485	580	12800	3320	3620	20000	768	2380	2720	392
29	205	370	444	560	---	5660	3690	13900	960	1800	3420	419
30	251	601	485	640	---	17700	4150	8980	6250	1370	4640	394
31	292	---	1750	520	---	22900	---	5660	---	1710	5250	---
TOTAL	8062	14728	47523	82740	64280	476730	384920	157600	67626	95423	151570	46754
MEAN	260	491	1533	2669	2296	15380	12830	5084	2254	3078	4889	1559
MAX	394	1040	4250	11200	15000	53400	36100	21500	6250	9830	12900	5880
MIN	172	197	444	520	390	3320	3280	1730	768	520	1090	392
CFSM	.04	.08	.24	.42	.36	2.43	2.03	.80	.36	.49	.77	.25
IN.	.05	.09	.28	.49	.38	2.80	2.26	.93	.40	.56	.89	.27

CAL YR 1978 TOTAL 1927767 MEAN 5282 MAX 86400 MIN 157 CFSM .83 IN 11.33
WTR YR 1979 TOTAL 1597956 MEAN 4378 MAX 53400 MIN 172 CFSM .69 IN 9.39

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1950 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: April 1950 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,240 mg/L Mar. 26, 1954; minimum daily mean, 1 mg/L on many days during 1953, 1955, and 1963.
SEDIMENT LOADS: Maximum daily, 208,000 tons (189,000 tonnes) Feb. 12, 1959; minimum daily, 0.26 ton (0.24 tonne) Sept. 18, 1955.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 765 mg/L Apr. 15; minimum daily mean, 6 mg/L on Oct. 23, Nov. 30.
SEDIMENT LOADS: Maximum daily, 77,000 tons (69,900 tonnes) Mar. 6, minimum daily, 3.8 tons (2.5 tonnes) Oct. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 11...	1700	223	980	9.0	15.0	10	11.4	110	41	13	600
NOV 07...	1330	197	660	9.1	12.0	7.0	11.4	100	23	44	97
DEC 07...	1630	3150	830	8.0	2.0	4.0	12.7	92	23	420	860
JAN 10...	1745	2400	590	7.7	.5	25	12.6	88	18	580	2200
FEB 13...	1600	400	1000	7.6	.5	6.0	12.4	85	78	480	K17
MAR 12...	1130	16500	390	8.1	2.5	5.0	12.0	88	42	170	120
APR 03...	1245	12700	545	7.9	10.0	150	9.7	86	41	800	1400
MAY 09...	1400	3420	650	7.9	23.5	15	10.4	120	54	K2	50
JUN 05...	1215	1330	700	9.4	22.0	15	11.3	130	25	62	E1
JUL 02...	1445	8240	590	7.6	19.0	88	8.6	91	42	4300	2300
AUG 01...	1645	8620	640	8.3	26.0	30	10.6	130	60	52	3000
SEP 05...	0915	2390	515	7.6	23.5	60	8.0	93	19	280	2600

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 11...	230	91	53	24	48	5.4	140	--	110	64	.7
NOV 07...	290	130	75	26	54	6.0	160	--	130	71	.8
DEC 07...	310	130	76	28	56	5.6	180	--	130	70	.7
JAN 10...	250	130	68	20	22	5.1	120	--	80	45	.3
FEB 13...	370	150	100	30	57	6.4	220	--	150	95	.4
MAR 12...	170	87	50	12	8.8	3.0	87	--	49	24	.1
APR 03...	240	120	68	16	13	2.9	120	--	68	32	.1
MAY 09...	260	120	71	21	20	3.2	140	--	100	56	.3
JUN 05...	320	170	87	25	15	3.4	150	--	81	40	.3
JUL 02...	260	130	75	17	14	3.4	130	--	66	30	.3
AUG 01...	270	110	73	21	26	4.4	160	1.6	88	40	.4
SEP 05...	230	87	63	17	16	4.5	140	6.9	55	27	.3

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 11...	.1	425	390	1.1	1.1	1.1	4.9	.17	--	--	9.35
NOV 07...	.0	470	459	1.0	1.1	1.1	4.9	.16	9.2	290000	9.45
DEC 07...	5.8	528	480	.83	1.2	3.9	17	.26	7.1	--	--
JAN 10...	6.7	390	319	2.0	2.5	11	49	.27	--	--	--
FEB 13...	8.7	656	580	1.5	2.9	8.5	38	.33	9.3	--	--
MAR 12...	5.9	279	205	1.1	1.5	8.5	38	.25	7.4	8900	--
APR 03...	7.6	378	280	1.4	1.6	13	56	.25	--	--	--
MAY 09...	.3	463	356	1.2	1.3	5.0	22	.13	8.3	58000	--
JUN 05...	5.3	433	347	1.3	1.4	16	73	.13	9.0	23000	7.32
JUL 02...	6.8	402	291	1.9	2.1	12	54	.29	--	15000	--
AUG 01...	4.2	396	353	1.9	2.1	6.3	28	.22	10	65000	17.2
SEP 05...	8.8	365	296	1.4	1.5	5.8	26	.30	7.9	--	--

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 11...	1700	3	2	100	100	11	11	<10	1
JAN 10...	1745	2	1	100	100	7	0	20	0
APR 03...	1245	2	1	0	0	3	1	<10	<10
JUL 02...	1445	3	2	50	50	1	0	40	10

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT 11...	4	4	5	5	320	20	99	87	100
JAN 10...	2	0	9	4	2500	40	120	5	40
APR 03...	4	0	15	6	6700	100	32	4	110
JUL 02...	3	0	19	5	4600	10	13	3	110

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 11...	90	<.5	<.5	0	0	0	0	20	20
JAN 10...	10	<.5	<.5	1	1	0	0	80	20
APR 03...	7	<.5	<.5	2	0	0	0	60	10
JUL 02...	3	<.5	<.5	1	0	1	1	50	20

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM
APR											
17...	1540	27400	721	53300	80	94	95	95	98	99	100

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
11...	1700	223	15.0	20	12
NOV					
07...	1330	197	12.0	12	6.4
DEC					
07...	1630	3150	2.0	11	94
JAN					
10...	1745	--	.5	--	--
FEB					
13...	1600	400	.5	6	6.5
MAR					
12...	1130	16500	2.5	61	2720
APR					
03...	1245	12700	10.0	145	4970
MAY					
09...	1400	3420	23.5	40	369
JUN					
05...	1215	1330	22.0	32	115
JUL					
02...	1445	8240	19.0	160	3560
AUG					
01...	1645	8620	26.0	56	1300
SEP					
05...	0915	2390	23.5	58	439

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21	14	20	14	13	17	86	1540	23	37	133	3900
2	21	13	43	95	13	17	133	3820	23	36	159	5520
3	17	9.8	22	19	14	33	142	4280	23	35	174	6810
4	13	11	18	12	15	94	116	2900	23	34	280	18000
5	15	11	16	10	16	142	76	1150	23	32	497	51100
6	15	13	14	7.4	14	155	60	683	23	31	534	77000
7	15	8.3	12	6.4	12	107	50	472	23	30	458	58000
8	15	7.0	11	7.8	25	235	44	356	23	29	409	38000
9	15	8.0	10	11	79	906	41	304	23	28	328	24000
10	19	10	10	11	90	850	39	253	23	27	278	17500
11	23	13	9	11	87	705	35	203	23	26	238	13000
12	12	8.5	24	25	74	400	33	174	23	25	191	8200
13	8	5.6	20	25	44	202	32	155	23	25	146	4610
14	8	4.8	9	20	26	98	30	134	23	25	120	2950
15	11	9.0	7	7.0	13	42	29	117	24	25	106	2330
16	10	7.3	8	8.5	26	77	29	110	23	24	97	2100
17	12	11	38	107	52	138	27	95	23	24	75	1410
18	11	9.0	48	99	56	129	26	84	23	24	48	795
19	12	11	25	30	56	113	26	77	23	24	37	635
20	10	5.8	15	30	56	106	26	74	23	25	136	2780
21	11	12	10	18	55	142	26	70	23	25	48	771
22	9	7.9	9	15	55	89	24	61	23	26	30	548
23	6	3.8	8	13	55	80	24	57	23	29	30	497
24	7	4.2	8	13	56	103	24	53	62	753	31	465
25	18	12	8	7.3	57	107	24	51	110	2550	30	393
26	26	20	9	9.7	57	100	24	48	154	5410	26	307
27	28	21	9	13	58	76	23	43	181	7330	20	195
28	29	15	8	18	63	82	23	42	156	5380	17	152
29	25	14	7	7.0	72	86	23	41	---	---	118	2240
30	24	16	6	9.7	75	98	23	40	---	---	499	24200
31	22	17	---	---	78	370	23	39	---	---	498	30800
TOTAL	---	334.0	---	679.8	---	5899	---	17527	---	22069	---	409210
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	305	15900	41	401	43	583	122	3240	32	156	81	1290
2	230	9560	40	369	33	381	115	2860	77	1210	56	763
3	182	6090	39	363	26	256	104	2300	155	5400	63	543
4	141	3560	35	307	26	204	118	1560	130	3690	81	582
5	188	5480	38	368	26	157	117	1230	106	2360	119	678
6	198	6420	42	414	25	134	107	867	84	1320	103	834
7	94	2790	46	453	28	146	91	565	80	862	48	341
8	77	1890	44	422	34	200	106	572	60	543	31	163
9	82	2590	42	369	34	278	48	441	60	575	44	173
10	188	6950	38	285	31	331	53	765	72	820	48	145
11	194	7020	30	215	28	253	75	1130	82	1010	38	90
12	138	4960	30	184	29	227	58	918	87	1210	38	98
13	156	7160	27	154	28	180	56	605	63	686	38	75
14	418	36100	25	153	27	152	44	356	41	284	43	114
15	765	74600	25	166	28	135	48	428	43	193	37	113
16	740	69500	27	186	25	95	44	356	47	176	46	181
17	710	49200	29	227	25	90	39	253	52	152	55	350
18	450	23800	30	197	24	63	33	169	142	1190	77	405
19	166	6230	30	181	25	55	29	110	274	3410	50	192
20	142	3320	36	188	24	59	26	77	144	1330	47	143
21	136	2640	76	390	27	93	24	58	115	1310	47	127
22	81	1240	85	397	31	149	24	47	146	2870	30	67
23	78	1020	76	417	33	178	23	37	98	1530	27	55
24	68	733	57	336	32	149	23	32	146	2330	30	55
25	40	399	60	922	29	119	23	35	221	5790	40	63
26	38	344	94	4190	27	94	21	42	137	2540	42	55
27	37	328	267	15500	26	73	33	169	106	1320	30	32
28	37	362	272	14700	24	50	38	244	91	668	27	28
29	40	399	208	7310	24	56	32	155	115	1060	27	31
30	40	448	93	2250	83	1400	28	104	113	1420	26	28
31	---	---	45	688	---	---	31	143	84	1190	---	---
TOTAL	---	351033	---	53202	---	6340	---	19969	---	48605	---	7807

TOTAL LOAD FOR YEAR: 942674.8 TONS.

04195500 PORTAGE RIVER AT WOODVILLE, OH

LOCATION.--Lat 41°26'58", long 83°21'41", in sec. 28, T.6 N., R.13 E., Sandusky County, Hydrologic Unit 04100010, on left bank at upstream side of bridge on U.S. Highway 20 in Woodville, 600 ft (183 m) downstream from unnamed right bank tributary, and 10.3 mi (16.6 km) upstream from Sugar Creek.

DRAINAGE AREA.--428 mi² (1,109 km²).

PERIOD OF RECORD.--July 1928 to December 1935, October 1939 to current year.

REVISED RECORDS.--WSP 894: 1929-30. WSP 1207: 1933. WSP 1387: 1931, 1933. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 614.75 ft (187.376 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 8, 1933, nonrecording gage, Oct. 9, 1933 to Dec. 30 1935, water-stage recorder, Oct. 17 to Nov. 29, 1939, nonrecording gage, all at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Flow supplemented by water imported from Maumee River basin for municipal supply for city of Bowling Green 16 mi (26 km) upstream. The importation of this water began Sept. 1, 1951. Sediment data collected at this site 1950 to 1956.

AVERAGE DISCHARGE (adjusted for diversion).--47 years, 312 ft³/s (8.836 m³/s), 9.90 in/yr (251 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Feb. 15, 1950, gage height, 14.51 ft (4.423 m); minimum daily (prior to diversion) 0.4 ft³/s (0.011 m³/s) Aug. 26, 1931; (subsequent to diversion) 1.8 ft³/s (0.051 m³/s) Sept. 22, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 17 ft (5.2 m), from information by local residents, discharge, 17,000 ft³/s (481 m³/s), from rating curve extended above 11,500 ft³/s (326 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 5	0430	5280	150	9.83	2.996	May 27	0030	4490	127	9.15	2.789
Apr. 15	0530	*9990	283	*13.23	4.033						

Minimum daily discharge, 10 ft³/s (0.28 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	21	28	458	29	252	974	161	302	1120	133	620
2	12	21	32	1450	28	359	671	134	245	669	679	500
3	13	21	82	643	27	1050	613	134	190	382	528	390
4	13	21	160	342	26	4020	560	162	155	387	225	250
5	14	24	152	300	26	4570	2130	139	132	672	114	270
6	19	24	96	250	25	1780	1660	120	118	407	77	149
7	15	26	69	200	25	968	910	110	107	207	62	105
8	19	27	87	160	24	777	604	105	92	122	49	138
9	17	28	150	130	24	728	1020	99	83	325	448	94
10	13	25	140	110	24	910	1450	94	80	2150	740	60
11	11	24	127	90	24	749	858	89	65	1830	118	45
12	11	22	92	78	24	384	707	90	57	915	77	40
13	13	20	57	66	24	288	1350	94	51	476	53	39
14	14	26	51	60	25	307	7230	89	45	275	41	50
15	18	32	46	52	25	474	9400	95	40	288	47	569
16	20	28	41	48	25	296	5290	109	36	163	700	362
17	18	40	36	47	25	243	1850	93	32	113	1700	157
18	20	54	32	46	25	206	1000	74	29	72	2900	94
19	22	43	38	45	24	393	600	68	27	54	2600	67
20	17	35	32	44	24	563	400	63	31	43	1350	53
21	15	32	27	44	28	468	300	59	100	37	700	43
22	15	29	27	43	64	368	250	55	446	32	520	38
23	17	36	26	43	450	305	225	51	245	29	390	32
24	16	32	25	42	1900	276	210	53	129	28	470	29
25	16	28	25	42	1220	234	200	1150	79	46	560	24
26	17	25	24	41	377	169	195	3970	56	263	271	21
27	19	24	22	40	231	121	203	3880	45	148	210	20
28	22	27	20	37	250	109	200	1900	39	84	440	18
29	22	32	18	35	---	963	208	981	39	58	1500	19
30	23	30	20	33	---	2090	194	564	478	49	1150	18
31	22	---	37	30	---	1710	---	377	---	47	820	---
TOTAL	513	857	1819	5049	5023	26130	41472	15162	3573	11491	19672	4314
MEAN	16.5	28.6	58.7	163	179	843	1382	489	119	371	635	144
MAX	23	54	160	1450	1900	4570	9400	3970	478	2150	2900	620
MIN	10	20	18	30	24	109	194	51	27	28	41	18
+	4.8	4.7	3.7	4.8	5.0	4.5	4.7	5.1	4.9	4.3	4.2	4.3
MEAN ≠	11.7	23.9	55.0	158	174	838	1378	484	114	366	630	140
CFSM ≠	.03	.06	.13	.37	.41	1.96	3.22	1.13	.27	.86	1.47	.33
IN ≠	.03	.06	.15	.43	.42	2.26	3.59	1.30	.30	.99	1.70	.36

CAL YR 1978 TOTAL 141063.6 MEAN 386 MAX 8800 MIN 7.5 + 4.8 MEAN ≠ 382 CFSM ≠ .89 IN. ≠ 12.11
WTR YR 1979 TOTAL 135075.0 MEAN 370 MAX 9400 MIN 10 + 4.6 MEAN ≠ 365 CFSM ≠ .85 IN. ≠ 11.59

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH

LOCATION.--Lat 41°26'58", long 83°21'29", in E 1/2 sec. 28, T.6 N., R.13 E., Sandusky County, Hydrologic Unit 04100010, on right bank at old interurban line bridge abutment, just downstream from railroad bridge, and 800 ft (244 m) downstream from discharge station at Woodville.

DRAINAGE AREA.--428 mi² (1,109 km²) (at discharge station).

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1968 to current year.
pH: June 1968 to current year.
WATER TEMPERATURES: June 1968 to current year.
DISSOLVED OXYGEN: June 1968 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station at Woodville (station 04195500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,930 micromhos Sept. 27, 1979; minimum, 195 micromhos Mar. 4, 1979.
pH: Maximum, 12.0 units Aug. 5, 9, 1971, Aug. 14, 15, 1972; minimum, 6.4 units Nov. 29, 30, 1973.
WATER TEMPERATURES: Maximum, 36.5°C July 8, 1974; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L July 12, Aug. 15, Dec. 29, 1978, July 18-21, Aug. 8, 1979; minimum, 0.1 mg/L Aug. 14-16, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,930 micromhos Sept. 27; minimum, 195 micromhos Mar. 4.
pH: Maximum, 9.2 units Oct. 1, 2; minimum, 7.3 units Aug. 24, 30.
WATER TEMPERATURES: Maximum, 30.0°C July 23; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L Dec. 29, July 18-21, Aug. 8; minimum, 1.8 mg/L Feb. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
JUN												
29...	1300	36	670	8.0	--	--	--	94	48	7.1	730	.99
29...	1700	35	659	8.1	--	--	--	65	50	6.7	690	.94
29...	2100	42	546	8.0	--	--	--	57	35	7.1	595	.81
30...	0100	62	520	8.0	--	--	--	54	29	8.0	515	.70
30...	0500	105	529	8.1	--	--	--	59	28	8.7	549	.75
30...	0900	215	548	8.0	--	--	--	62	29	9.2	598	.81
30...	1300	296	567	8.1	--	--	--	65	29	9.7	501	.68
30...	1700	659	585	8.1	--	--	--	67	30	12	538	.73
30...	2100	1210	592	8.1	--	--	--	71	32	10	542	.74
JUL												
01...	0100	1370	600	8.1	--	--	--	78	34	10	536	.73
02...	1500	623	628	8.0	16.5	7.5	--	70	41	10	565	.77
AUG												
01...	2330	682	657	8.2	--	--	--	90	51	5.5	630	.85
01...	2400	710	652	8.2	--	--	--	87	51	5.7	654	.89
02...	0200	759	488	8.3	--	--	--	56	31	6.6	535	.73
02...	0400	759	415	8.1	--	--	--	37	19	8.0	379	.51
02...	0600	739	421	8.1	--	--	--	42	18	8.5	335	.45
02...	0800	706	400	8.1	--	--	--	39	18	8.0	365	.50
02...	0930	682	398	8.1	--	--	--	38	18	8.0	284	.39
24...	0930	296	654	8.0	20.5	7.8	--	76	35	10	463	.64
SEP												
15...	0530	385	753	8.0	--	--	18	--	73	4.9	494	.67
15...	0730	542	746	7.7	--	--	33	108	67	4.9	490	.67
15...	0930	650	747	7.8	--	--	35	106	58	5.8	472	.64
15...	1130	725	683	7.7	--	--	33	90	51	7.1	430	.58
15...	1330	774	612	7.5	--	--	36	77	41	9.3	387	.53
15...	1530	789	583	7.7	--	--	33	70	36	12	360	.49
15...	1730	774	588	7.7	--	--	40	72	36	13	367	.50
15...	1930	734	589	7.7	--	--	35	71	35	10	363	.49
15...	2130	677	575	7.9	--	--	33	69	34	14	360	.49
15...	2330	618	563	8.3	--	--	34	71	30	10	351	.48
16...	0130	558	562	7.7	--	--	43	72	31	12	348	.47
16...	0330	506	556	7.6	--	--	43	70	28	11	350	.48
21...	0800	47	845	8.3	16.5	8.6	24	73	72	10	553	.75

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
29...	71.0	165	12	.06	2.6	2.6	15	66	.37	.11	.34	9.5
29...	67.0	125	8.4	.05	2.1	2.1	11	47	.33	.11	.34	8.3
29...	67.5	389	9.5	.01	2.8	2.7	12	54	.62	.09	.28	10
30...	86.2	373	10	.00	3.0	3.0	14	52	.57	.09	.28	11
30...	156	284	12	.01	2.5	2.5	15	66	.49	.10	.31	10
30...	347	202	13	.00	1.1	1.0	14	63	.40	.08	.25	10
30...	400	150	13	.01	2.4	2.4	16	70	.34	.08	.25	9.9
30...	957	118	13	.04	2.3	2.3	16	70	.29	.11	.34	10
30...	1770	98	13	.02	1.4	1.4	15	66	.26	.10	.31	10
JUL												
01...	1980	87	13	.05	2.0	2.0	15	67	.25	.10	.31	8.6
02...	951	79	11	.01	1.5	1.4	13	59	.23	.08	.25	8.2
AUG												
01...	1160	122	2.1	.00	1.2	1.2	3.4	15	.35	.18	.55	7.6
01...	1250	126	2.1	.02	1.9	1.9	4.1	18	.54	.19	.58	10
02...	1100	382	3.2	.01	2.2	2.2	5.5	24	.65	.17	.52	10
02...	774	428	4.2	.02	2.2	2.2	6.5	29	.63	.16	.49	9.9
02...	670	424	4.4	.02	2.2	2.1	6.6	29	.60	.16	.49	10
02...	696	389	4.1	.01	2.1	2.1	6.3	28	.56	.16	.49	10
02...	523	351	4.2	.01	1.1	1.1	5.3	23	.22	.16	.49	8.4
24...	374	63	2.6	.02	1.2	1.2	3.8	17	.23	.12	.37	7.8
SEP												
15...	513	69	2.0	.33	.74	1.0	3.1	14	.25	.21	.64	7.2
15...	717	41	1.7	.06	1.0	1.1	2.9	13	.19	.14	.43	8.6
15...	827	34	2.0	.05	1.2	1.2	3.3	15	.25	.14	.43	9.3
15...	841	46	1.9	.09	1.0	1.1	3.1	14	.29	.12	.37	9.9
15...	809	70	2.3	.11	1.3	1.4	3.8	17	.29	.17	.52	10
15...	767	84	2.5	.10	1.4	1.5	4.1	18	.27	.15	.45	10
15...	767	80	2.5	.08	1.5	1.6	4.2	19	.26	.15	.45	9.4
15...	719	75	2.6	.12	1.7	1.8	4.4	20	.26	.16	.49	9.4
15...	657	79	2.3	.11	1.1	1.2	3.6	16	.28	.15	.45	9.3
15...	586	82	2.2	.14	1.3	1.4	3.6	16	.29	.15	.45	9.7
16...	524	67	2.4	.03	1.3	1.3	3.8	17	.31	.17	.52	9.7
16...	478	72	2.4	.28	1.6	1.9	4.4	19	.37	.20	.61	7.7
21...	70.1	29	2.3	.15	1.1	1.2	3.6	16	.16	.19	.58	5.9

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1180	1050	1070	993	1150	1080	759	690	---	---	558	471
2	1150	1040	1090	1050	1170	1160	705	603	---	---	519	417
3	1160	882	1120	1060	1160	684	---	---	---	---	483	303
4	1130	948	1160	1110	1080	906	---	---	---	---	294	195
5	1150	987	1190	1120	1120	1070	---	---	---	---	312	204
6	1130	1080	1210	1170	1100	1030	---	---	---	---	414	319
7	1130	1070	1190	1150	948	849	---	---	---	---	480	417
8	1080	1040	1190	1170	975	816	---	---	---	---	513	480
9	1100	1070	1200	1170	981	849	---	---	---	---	540	507
10	1120	1040	1220	1180	933	882	---	---	---	---	555	537
11	1150	1070	1220	1210	1010	906	---	---	---	---	582	543
12	1130	996	1210	1200	1090	1030	---	---	---	---	645	595
13	1070	984	1280	1210	1130	891	---	---	---	---	681	642
14	1020	936	1270	1090	1190	906	---	---	---	---	705	679
15	1120	1000	1310	1240	1190	951	---	---	1450	1330	672	624
16	1160	1060	1340	1160	1250	1010	---	---	1430	1400	660	630
17	1160	1100	1210	993	1230	1120	---	---	1430	1400	726	650
18	1180	1110	1270	1210	1190	1060	---	---	1460	1430	747	720
19	1120	1090	1210	1150	1140	1070	---	---	1510	1410	761	697
20	1130	1010	1250	1210	1240	1220	---	---	1680	1390	684	659
21	1140	1040	1260	1220	1240	1160	---	---	2220	1400	699	672
22	1170	1100	1230	1190	1240	1130	---	---	1400	1250	723	695
23	1180	1130	1210	1010	1160	1110	---	---	1300	552	744	720
24	1210	1090	1250	1210	1160	1120	---	---	762	319	753	744
25	1180	1090	1220	1160	1230	1140	---	---	312	282	759	747
26	1120	1060	1160	993	1280	1160	---	---	378	297	777	756
27	1090	1050	1060	987	1220	1190	---	---	474	378	789	777
28	1130	1070	1100	1050	---	---	---	---	552	453	933	789
29	1140	1090	1100	1080	1380	1320	---	---	---	---	801	627
30	1130	1070	1100	1080	1420	1350	---	---	---	---	633	619
31	1100	1030	---	---	1150	717	---	---	---	---	642	619
MONTH	1210	882	1340	987	1420	684	759	603	2220	282	933	195

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	675	642	756	741	792	774	600	516	705	600	648	624
2	717	675	750	714	810	786	550	603	492	387	663	624
3	726	705	753	726	825	804	729	612	534	471	741	650
4	726	657	771	744	840	822	705	615	555	513	636	575
5	657	546	792	762	843	828	659	603	606	555	648	570
6	606	555	804	789	816	816	699	651	702	606	678	609
7	657	606	792	768	849	801	771	699	738	702	732	641
8	693	654	807	783	843	819	807	768	768	639	885	644
9	696	630	819	795	855	816	816	366	741	393	996	654
10	630	603	834	795	840	804	537	420	495	339	1080	780
11	666	630	837	551	849	756	516	432	561	498	906	795
12	702	666	843	708	825	762	570	519	597	558	1020	726
13	705	306	843	618	855	768	550	573	584	567	867	687
14	267	237	858	678	834	780	723	657	666	576	756	642
15	300	237	822	557	843	786	741	686	753	654	735	549
16	438	303	867	780	894	810	699	687	792	738	564	522
17	531	444	834	783	924	807	708	649	792	570	630	557
18	594	534	855	825	903	771	711	591	726	351	702	633
19	663	597	873	834	936	792	678	606	351	279	771	709
20	702	639	852	569	900	561	708	609	402	306	807	759
21	738	681	831	468	780	540	717	603	456	408	849	795
22	783	741	897	837	825	657	696	579	531	434	873	804
23	819	771	912	867	735	687	---	---	648	534	912	813
24	846	810	930	696	831	738	---	---	661	636	909	825
25	849	831	780	639	780	753	---	---	639	537	897	792
26	852	831	639	549	816	780	---	---	606	555	879	774
27	846	822	552	540	843	762	591	498	678	570	2930	815
28	816	762	657	549	822	678	618	582	642	525	1640	837
29	774	747	723	666	771	633	545	618	606	453	956	855
30	855	744	747	717	894	576	651	609	513	435	960	885
31	---	---	774	747	---	---	699	575	624	519	---	---
MONTH	855	237	930	468	936	540	816	366	792	279	2930	522
YEAR	2930	195										

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.2	8.5	8.3	7.7	8.7	8.5	8.0	7.8	---	---	7.9	7.8
2	9.2	8.5	8.4	7.8	8.7	8.4	8.0	7.7	---	---	8.1	7.5
3	8.9	8.5	8.3	7.7	8.9	7.7	---	---	---	---	7.9	7.7
4	8.9	8.2	8.3	7.6	7.9	7.7	---	---	---	---	8.3	7.9
5	9.0	8.4	8.3	7.6	8.1	8.0	---	---	---	---	8.1	7.9
6	8.9	8.4	8.0	7.5	8.1	8.0	---	---	---	---	7.9	7.9
7	9.0	8.5	8.1	7.5	8.1	7.8	---	---	---	---	8.1	7.9
8	9.0	8.6	8.3	7.7	7.9	7.8	---	---	---	---	8.0	7.9
9	8.9	8.7	8.5	7.8	8.1	7.8	---	---	---	---	8.0	7.9
10	9.0	8.5	8.4	8.0	8.3	8.1	---	---	---	---	8.0	7.9
11	9.1	8.3	8.6	7.9	8.2	7.9	---	---	---	---	8.3	8.0
12	9.1	8.3	8.1	7.9	7.9	7.5	---	---	---	---	8.3	8.1
13	9.1	8.3	8.2	7.8	8.2	7.4	---	---	---	---	8.2	8.1
14	9.1	8.4	8.2	7.8	8.3	7.9	---	---	---	---	8.2	8.1
15	8.9	8.3	---	---	8.3	8.1	---	---	7.8	7.7	8.2	8.2
16	8.7	8.4	8.4	7.9	8.4	8.1	---	---	8.1	7.8	8.3	8.2
17	8.7	8.3	8.0	7.8	8.4	8.1	---	---	7.9	7.7	8.2	8.1
18	8.8	8.3	8.0	7.8	8.3	8.1	---	---	8.1	7.7	8.2	8.1
19	8.6	8.2	8.1	7.8	8.2	8.0	---	---	8.0	7.8	8.1	8.0
20	8.5	8.2	8.1	7.8	8.1	8.0	---	---	7.8	7.6	8.1	8.0
21	8.6	8.0	8.1	7.9	8.5	8.1	---	---	7.8	7.7	8.2	8.0
22	8.6	7.9	8.2	7.9	8.6	8.4	---	---	7.9	7.7	8.2	8.0
23	8.4	7.8	8.0	7.8	8.8	8.5	---	---	8.5	7.8	8.2	8.0
24	8.4	7.9	8.0	7.8	8.8	8.5	---	---	7.9	7.7	8.2	8.0
25	8.7	7.9	8.3	7.9	8.8	8.4	---	---	7.9	7.8	8.3	8.1
26	8.1	7.8	8.3	8.0	8.9	8.4	---	---	7.8	7.7	8.4	8.2
27	8.3	7.8	8.4	8.2	8.6	8.5	---	---	7.9	7.6	8.5	8.2
28	8.3	7.8	8.6	8.2	---	---	---	---	7.9	7.7	8.5	7.9
29	8.3	7.9	8.7	8.4	8.9	8.2	---	---	---	---	8.0	7.7
30	8.3	8.0	8.7	8.4	8.5	8.4	---	---	---	---	7.7	7.5
31	8.2	7.8	---	---	8.4	7.8	---	---	---	---	7.8	7.6
MONTH	9.2	7.8	8.7	7.5	8.9	7.4	8.0	7.7	8.5	7.6	8.5	7.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.8	8.9	8.5	8.1	7.9	7.7	7.6	8.8	7.5	7.8	7.9
2	8.0	7.9	9.0	8.5	8.1	7.9	7.9	7.7	7.7	7.5	7.8	7.6
3	8.2	8.0	8.9	8.3	8.2	7.9	7.9	7.8	7.7	7.5	7.9	7.7
4	8.1	7.9	8.8	8.3	8.3	7.9	8.0	7.7	7.8	7.5	7.9	7.7
5	7.9	7.7	8.8	8.4	8.5	7.9	7.8	7.7	7.9	7.7	7.8	7.7
6	8.0	7.8	8.8	8.5	8.7	8.1	8.0	7.8	8.2	7.7	8.0	7.9
7	8.1	8.0	8.8	8.5	8.8	8.1	8.1	7.9	8.7	7.8	8.2	7.9
8	8.1	8.0	8.7	8.3	8.8	8.1	8.4	8.0	8.7	8.1	8.4	8.1
9	8.1	7.9	8.7	8.1	8.8	8.0	8.2	7.5	8.7	7.5	8.2	7.9
10	8.0	7.9	8.8	7.9	8.7	8.2	7.5	7.4	7.6	7.4	8.5	7.9
11	8.0	7.9	8.8	7.8	8.8	8.1	7.6	7.5	7.8	7.6	8.7	8.1
12	8.1	8.0	8.3	7.8	8.7	8.0	7.7	7.6	7.8	7.7	8.6	8.2
13	8.0	7.7	8.3	7.7	8.7	7.8	7.8	7.7	7.8	7.7	8.6	7.7
14	7.7	7.6	8.4	7.8	8.7	7.7	8.2	7.8	8.0	7.8	8.9	7.8
15	7.6	7.6	8.5	7.8	8.6	7.7	8.0	7.9	8.2	7.9	8.5	7.6
16	7.7	7.6	8.5	7.9	8.6	7.6	8.4	7.8	8.4	7.9	7.8	7.7
17	7.8	7.7	8.7	8.1	8.6	7.5	8.9	8.0	8.3	8.0	8.0	7.7
18	7.9	7.8	8.8	8.0	8.6	7.5	8.9	8.2	8.6	7.5	8.2	7.9
19	8.0	7.9	8.8	7.9	8.9	7.6	9.0	7.7	7.5	7.4	8.3	8.0
20	8.0	7.9	8.8	7.8	9.0	7.7	8.9	7.6	7.5	7.4	8.5	8.0
21	8.0	7.9	8.8	7.8	7.9	7.5	8.8	7.6	7.6	7.5	8.5	8.0
22	8.1	7.9	8.8	7.8	8.1	7.6	8.7	7.6	7.7	7.5	8.5	8.1
23	8.1	7.9	8.7	7.8	7.9	7.7	8.4	7.5	7.8	7.5	8.6	8.2
24	8.1	7.9	8.4	7.8	8.3	7.8	8.3	7.5	7.9	7.3	8.6	8.3
25	8.2	7.9	7.9	7.6	8.5	7.9	8.4	7.5	7.8	7.7	8.7	8.3
26	8.2	8.0	7.6	7.5	8.7	8.0	---	---	7.8	7.7	8.7	8.3
27	8.3	7.9	7.6	7.6	8.8	8.0	7.8	7.5	7.9	7.7	8.7	8.1
28	8.4	8.1	7.8	7.6	8.7	8.0	7.9	7.5	7.9	7.7	8.4	8.1
29	8.6	8.2	7.9	7.6	8.4	7.5	8.6	7.6	7.7	7.4	8.6	8.0
30	8.7	8.4	7.9	7.9	7.8	7.4	8.8	7.8	7.6	7.3	8.5	8.1
31	---	---	8.0	7.9	---	---	8.8	8.1	7.8	7.6	---	---
MONTH	8.7	7.6	9.0	7.6	9.0	7.4	9.0	7.4	8.8	7.3	8.9	7.6
YEAR	9.2	7.3										

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.0	15.0	12.0	9.0	3.5	1.0	3.5	1.0	---	---	1.0	.5
2	18.5	14.0	11.5	7.0	3.5	2.0	2.0	.0	---	---	1.5	.5
3	16.0	14.0	13.0	8.0	7.0	2.0	---	---	---	---	1.0	.5
4	15.5	13.5	13.5	9.0	7.0	2.5	---	---	---	---	3.0	.5
5	15.5	12.5	14.5	10.0	3.0	1.5	---	---	---	---	3.0	2.5
6	13.5	12.0	13.0	10.0	4.5	3.0	---	---	---	---	3.0	2.0
7	13.0	10.5	10.5	8.0	4.5	2.5	---	---	---	---	4.0	2.0
8	12.0	9.0	9.0	6.0	5.0	3.5	---	---	---	---	5.0	3.0
9	13.0	8.5	9.0	5.5	3.0	1.0	---	---	---	---	4.0	3.5
10	16.0	10.0	9.0	6.5	1.0	.5	---	---	---	---	3.5	2.5
11	15.0	11.5	10.0	6.0	1.0	.5	---	---	---	---	2.0	1.0
12	17.0	13.5	9.0	7.0	2.5	1.0	---	---	---	---	2.5	1.0
13	15.5	13.0	11.0	7.0	2.5	.5	---	---	---	---	4.5	1.5
14	14.0	12.0	11.5	9.5	1.5	.5	---	---	---	---	4.5	3.0
15	12.0	10.5	9.0	8.5	2.0	.0	---	---	1.5	.5	3.0	1.5
16	11.0	10.0	8.5	6.5	2.5	.0	---	---	2.0	1.0	3.5	1.0
17	12.0	8.0	10.5	6.5	3.0	.5	---	---	1.5	1.0	5.5	2.0
18	12.0	9.5	8.0	7.0	2.0	.0	---	---	1.5	1.0	9.0	5.0
19	12.5	10.5	7.0	5.0	.5	.0	---	---	1.5	1.0	7.5	7.0
20	13.5	9.0	6.5	5.5	3.5	1.5	---	---	1.0	1.0	7.5	6.0
21	16.0	10.0	5.5	5.0	2.5	.5	---	---	1.0	.5	9.0	6.0
22	17.0	12.0	6.0	5.0	2.0	.0	---	---	1.0	.5	9.5	6.5
23	15.5	10.5	7.5	5.0	1.5	.5	---	---	1.0	.5	9.5	8.0
24	11.5	8.5	7.5	5.5	1.0	.5	---	---	.5	.5	9.5	7.5
25	11.5	8.0	6.0	4.5	2.0	.0	---	---	1.0	.5	7.5	4.5
26	12.5	10.5	5.0	3.0	1.0	.5	---	---	1.0	1.0	4.5	2.5
27	11.5	8.0	3.5	1.5	1.0	.5	---	---	1.5	1.0	5.0	1.5
28	11.5	8.5	3.5	1.0	---	---	---	---	1.0	.5	5.5	2.5
29	11.0	7.5	2.5	.5	1.0	.0	---	---	---	---	7.0	5.0
30	11.5	7.0	2.5	1.0	1.5	1.0	---	---	---	---	7.5	6.5
31	12.5	8.0	---	---	3.5	2.5	---	---	---	---	8.0	7.0
MONTH	18.5	7.0	14.5	.5	7.0	.0	3.5	.0	2.0	.5	9.5	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.0	5.5	14.5	9.0	19.0	15.0	17.5	17.0	26.0	24.0	24.5	22.5
2	6.5	5.0	16.5	10.5	20.5	16.5	18.0	16.5	24.0	21.5	24.0	22.0
3	8.5	5.5	15.5	14.0	22.5	17.5	21.0	16.5	24.5	21.5	24.5	22.0
4	7.0	4.5	14.0	11.5	24.0	18.5	20.5	17.0	27.0	22.0	24.5	22.0
5	5.5	4.0	14.5	9.5	22.5	20.0	20.0	17.0	26.0	23.0	24.5	21.5
6	5.0	3.5	17.0	11.5	23.5	19.5	21.0	17.0	27.0	23.0	25.5	22.0
7	5.5	3.0	21.0	13.5	22.0	20.0	22.5	17.5	29.5	22.0	23.5	21.0
8	5.0	4.0	23.5	16.5	23.5	20.0	24.5	19.0	28.5	25.0	20.5	18.0
9	4.5	4.0	25.5	19.0	27.5	21.5	22.0	18.5	26.0	23.0	20.0	16.5
10	6.0	3.5	26.0	20.5	27.5	21.0	21.0	18.5	23.5	22.5	22.0	18.0
11	5.5	5.0	26.0	21.0	23.0	18.0	22.5	20.0	23.0	21.0	21.5	19.5
12	8.5	5.0	23.0	16.0	24.5	17.5	23.5	21.5	22.0	19.0	23.5	18.5
13	10.0	8.5	19.0	15.0	24.5	17.5	23.5	22.0	21.5	19.0	23.5	20.5
14	9.5	7.5	19.5	15.0	24.5	18.0	25.5	21.5	22.5	19.5	21.5	18.5
15	9.5	7.5	19.5	15.5	28.0	20.0	26.5	23.5	21.5	17.5	19.0	18.0
16	7.5	6.5	20.5	14.5	28.0	21.0	27.5	23.5	21.5	16.5	19.0	16.0
17	9.0	6.5	21.0	15.0	28.0	21.5	25.0	22.5	19.5	18.0	20.0	16.0
18	11.0	7.5	23.0	16.0	25.0	19.5	26.0	20.0	21.0	17.0	20.5	17.0
19	12.0	8.5	23.0	17.0	26.5	18.5	27.0	19.5	19.5	17.5	19.0	16.0
20	13.5	9.0	23.0	18.0	27.0	19.5	28.0	20.0	20.0	19.5	18.5	14.5
21	12.5	11.0	23.0	17.5	22.0	17.5	28.0	21.0	21.0	19.0	18.0	16.0
22	13.5	11.0	21.5	16.0	24.0	21.0	27.5	22.0	20.5	19.5	17.0	15.5
23	16.0	11.0	21.0	15.5	22.5	20.0	30.0	22.0	22.0	20.0	17.0	14.0
24	15.0	13.5	18.0	12.0	22.0	18.0	27.0	24.0	23.0	20.5	18.0	13.5
25	17.0	13.5	12.0	10.5	23.5	17.0	25.5	23.0	22.5	19.5	20.0	15.0
26	17.0	14.0	11.0	10.0	25.5	17.0	25.0	23.0	21.0	20.0	20.5	15.5
27	14.0	12.0	13.0	11.0	25.5	19.0	26.5	21.5	21.5	19.5	20.0	15.5
28	12.0	10.0	14.5	13.0	26.0	20.5	26.0	23.0	21.0	19.5	19.0	18.0
29	11.5	9.5	14.0	13.5	23.0	20.0	28.0	22.0	21.5	20.0	21.5	16.5
30	12.5	9.5	16.0	14.5	19.5	17.5	26.5	22.0	23.0	20.0	22.0	17.5
31	---	---	14.5	14.0	---	---	29.0	23.5	24.0	21.0	---	---
MONTH	17.0	3.0	26.0	9.0	28.0	15.0	30.0	16.5	29.5	16.5	25.5	13.5
YEAR	30.0	.0										

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.1	8.9	12.4	6.9	15.1	12.9	12.0	11.7	---	---	10.2	9.1
2	14.2	9.5	13.0	9.0	14.7	12.3	13.5	11.7	---	---	10.8	9.3
3	11.2	8.9	---	---	13.5	10.7	---	---	---	---	11.0	10.1
4	12.5	8.2	12.7	7.5	11.8	10.2	---	---	---	---	11.8	11.0
5	12.8	9.0	12.4	5.7	12.9	11.8	---	---	---	---	11.8	11.3
6	12.3	9.2	11.7	5.3	13.3	12.0	---	---	---	---	12.3	11.9
7	13.2	9.5	12.4	7.2	13.3	11.9	---	---	---	---	12.2	12.0
8	13.1	10.4	13.1	7.9	12.2	11.4	---	---	---	---	12.1	11.9
9	13.0	10.5	12.7	8.6	12.9	11.5	---	---	---	---	12.1	11.9
10	13.0	10.3	12.0	9.2	13.6	12.6	---	---	---	---	12.4	12.0
11	13.3	9.2	13.2	7.8	13.6	12.5	---	---	---	---	13.3	12.5
12	12.8	8.3	9.4	7.5	13.9	12.9	---	---	---	---	13.5	13.1
13	13.6	8.0	11.6	5.6	14.1	12.8	---	---	---	---	13.3	12.5
14	12.5	8.8	10.9	7.6	15.3	12.8	---	---	---	---	12.5	12.2
15	12.5	9.0	10.5	7.6	15.5	13.6	---	---	3.4	2.4	13.0	12.0
16	11.4	9.3	12.1	9.0	16.3	13.6	---	---	3.8	2.2	13.6	13.0
17	12.4	9.5	9.5	8.4	15.3	13.5	---	---	3.9	2.4	13.4	12.5
18	12.4	9.8	10.1	8.7	16.0	14.6	---	---	4.2	2.5	12.6	11.5
19	12.0	9.0	10.8	8.9	16.1	14.6	---	---	3.2	2.0	11.4	10.7
20	11.1	9.5	10.9	8.8	15.9	13.2	---	---	2.6	2.0	11.9	10.8
21	10.7	8.5	11.0	9.5	15.2	12.7	---	---	5.7	1.8	12.5	11.3
22	10.9	7.4	11.5	9.6	16.5	14.0	---	---	7.2	3.8	11.5	10.8
23	10.2	6.5	10.4	9.2	17.9	14.3	---	---	11.4	5.8	11.7	10.4
24	11.0	8.1	10.3	9.0	17.6	14.4	---	---	12.1	11.1	11.2	9.8
25	11.5	9.8	11.8	9.1	16.7	13.3	---	---	12.1	11.7	13.2	10.4
26	9.4	7.5	12.4	9.2	17.3	14.1	---	---	11.7	10.3	14.7	11.8
27	11.1	6.4	13.3	11.7	17.0	14.5	---	---	10.2	9.3	16.2	12.9
28	11.7	7.5	14.6	11.3	---	---	---	---	9.3	8.9	16.1	11.5
29	11.5	7.5	14.9	12.8	20.0	14.6	---	---	---	---	11.5	10.3
30	11.7	8.1	15.0	12.3	15.9	14.5	---	---	---	---	10.5	10.3
31	11.5	7.7	---	---	15.2	12.0	---	---	---	---	10.5	10.2
MONTH	15.1	6.4	15.0	5.3	20.0	10.2	13.5	11.7	12.1	1.8	16.2	9.1

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.1	10.5	18.0	11.1	8.6	7.1	7.3	6.6	17.4	6.3	7.6	7.1
2	11.6	11.0	16.8	11.4	8.5	6.3	7.6	7.3	6.2	5.2	7.4	6.8
3	12.4	11.0	16.2	9.5	9.7	6.2	7.9	7.4	6.5	6.3	8.3	7.0
4	11.3	10.9	15.4	9.2	10.7	6.1	7.5	7.2	5.6	6.0	7.8	6.7
5	11.2	11.0	17.0	10.4	12.1	5.9	7.5	7.1	7.4	5.9	7.6	7.0
6	11.9	11.2	16.9	10.7	14.6	6.9	8.0	7.5	10.3	5.5	8.9	7.1
7	12.1	11.8	15.2	10.0	16.3	6.6	9.2	7.6	16.3	6.1	11.5	7.4
8	11.9	11.4	13.8	7.5	16.6	6.1	11.5	7.4	20.0	6.0	13.3	8.6
9	11.5	11.2	13.1	5.9	17.2	5.7	8.6	7.0	17.5	5.5	12.1	8.4
10	11.7	11.4	12.2	4.7	14.9	6.1	7.0	6.4	6.5	5.7	14.7	8.9
11	11.6	11.4	12.1	3.7	16.4	6.3	6.6	6.4	7.1	6.5	18.7	8.1
12	11.8	11.0	8.2	3.6	17.9	7.1	6.5	6.3	7.6	7.2	20.0	8.9
13	10.9	9.8	10.1	4.9	18.5	7.1	6.7	6.2	8.0	7.4	20.0	9.4
14	10.0	9.4	10.4	5.9	17.2	7.0	9.2	6.3	8.7	7.3	20.0	8.3
15	9.6	9.2	10.8	5.0	16.9	5.9	7.4	6.6	10.3	7.4	12.6	7.7
16	10.0	9.5	12.9	5.6	16.3	4.1	10.7	6.1	12.8	7.9	8.7	7.9
17	10.4	10.0	15.2	7.6	15.6	3.9	15.6	6.7	11.4	7.7	9.9	8.5
18	10.3	10.0	16.0	5.8	16.8	4.1	20.0	9.0	14.7	7.4	10.8	8.5
19	10.1	9.8	15.5	5.9	17.3	5.6	20.0	11.2	7.9	7.6	12.1	8.0
20	10.0	9.6	14.3	4.6	17.3	5.6	20.0	9.0	7.6	7.2	13.9	8.7
21	9.5	8.4	15.5	8.4	8.7	5.3	20.0	7.4	7.7	7.3	14.0	8.6
22	9.8	8.8	15.2	4.8	8.1	4.6	19.6	6.2	7.7	7.4	15.9	8.5
23	10.1	9.0	13.8	4.8	7.5	5.4	16.6	5.4	8.0	7.6	16.4	9.6
24	9.6	8.5	7.7	4.2	10.3	6.2	12.4	4.0	7.9	7.6	17.4	10.1
25	10.2	8.2	7.8	7.2	12.6	6.4	12.4	3.6	7.9	7.6	17.6	10.3
26	10.2	8.0	8.9	8.6	14.5	6.7	6.9	5.4	7.9	7.6	15.8	9.5
27	11.3	8.0	8.8	8.4	16.1	6.1	6.9	5.2	8.5	7.6	15.6	8.7
28	11.8	9.0	8.5	8.1	19.8	5.6	8.2	4.8	8.1	7.6	11.8	7.9
29	14.5	9.5	8.3	8.0	14.0	5.9	15.6	5.2	7.9	7.0	14.8	7.6
30	15.0	10.9	8.1	7.7	6.8	5.6	17.2	5.4	7.3	7.0	15.0	7.6
31	---	---	8.3	7.6	---	---	20.0	5.7	7.5	7.2	---	---
MONTH	15.0	8.0	18.8	3.6	19.8	3.9	20.0	3.6	20.0	5.2	20.0	6.7
YEAR	20.0	1.8										

04196000 SANDUSKY RIVER NEAR BUCYRUS, OH

LOCATION.--Lat 40°48'13", long 83°00'21", in NE 1/4 sec. 10, T. 3 S., R. 16 E., Crawford County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on township road, 1 mile (2 km) upstream from unnamed left bank tributary, 1.5 mi (2.4 km) west of Bucyrus, and 12 mi (19 km) downstream from Loss Creek.

DRAINAGE AREA.--88.8 mi^2 (230 km^2).

PERIOD OF RECORD.--August 1925 to November 1935, July 1938 to December 1951, December 1963 to current year.

REVISED RECORDS.--WSP 744: 1925-32. WSP 874: 1938. WSP 1307: 1926(M), 1928(M), 1931, 1932(M), 1934-35(M), 1939, 1940(M), 1946(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.04 ft (291.096 m) National Geodetic Vertical Datum of 1929. Prior to May 11, 1940, nonrecording gage, and May 12, 1940, to December 31, 1951, water-stage recorder, at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow slightly affected by operation of reservoirs 5.3 mi (8.5 km) to 6.0 mi (9.7 km) upstream from station, for municipal supply of Bucyrus. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--38 years (1925-35, 1938-51, 1964-79), 86.1 ft^3/s (2.438 m^3/s), 13.17 in/yr (335 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 5,800 ft^3/s (164 m^3/s) Dec. 14, 1927, gage height, 9.15 ft (2.789 m) from rating curve extended above 2.500 ft^3/s (70.8 m^3/s); maximum gage height, 9.83 ft (2.996 m) Dec. 14, 1977; minimum daily discharge, 0.6 ft^3/s (0.017 m^3/s Sept. 28-30, 1941, Sept. 25-26, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1913 reached a stage of 14.5 ft (4.42 m), from floodmarks. Flood of Jan. 22, 1959 reached a stage of 11.9 ft (3.63 m), from floodmarks, discharge, 13,500 ft^3/s (382 m^3/s), on basis of contracted-opening measurement of peak flow at site 2.8 mi (4.5 km) upstream with drainage area of 85.4 mi^2 (221 km^2), adjusted to gage site by 0.8 power of drainage-area ratio.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34.0 m^3/s) and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 2	0800	1590	45.0	6.44	1.963	Apr. 14	1300	3330	94.3	9.05	2.758
Feb. 24	0500	*3350	94.9	*9.07	2.765	June 22	0200	2300	65.1	7.74	2.359
Mar. 4	1100	2250	63.7	7.66	2.335	Aug. 19	0700	2380	67.4	7.89	2.405
Apr. 9	1600	1240	35.1	5.67	1.728	Sept. 15	0700	1890	53.5	7.02	2.140

Minimum daily discharge, 0.7 ft^3/s (0.020 m^3/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.4	5.3	1120	19	186	59	24	83	332	13	72
2	4.4	4.4	3.6	1170	19	632	146	21	71	143	121	55
3	6.0	4.9	95	242	18	1120	201	31	48	83	65	70
4	10	3.6	626	116	17	2060	246	32	37	75	26	55
5	7.6	2.3	248	81	15	1160	598	28	33	109	19	43
6	5.3	5.1	71	66	14	433	226	23	27	52	15	34
7	3.1	5.1	43	52	13	274	133	21	37	33	11	28
8	1.9	5.1	177	49	12	229	132	19	49	24	15	22
9	2.3	5.6	811	42	12	188	919	17	201	57	167	19
10	2.1	5.8	237	34	11	286	426	106	537	196	68	17
11	2.3	4.9	79	29	10	178	206	58	157	107	43	15
12	3.1	4.9	57	25	10	96	198	46	79	54	55	15
13	34	5.3	37	23	10	82	517	33	45	43	28	15
14	30	9.2	30	22	11	111	2780	28	30	268	14	667
15	11	5.3	25	21	11	101	1080	24	23	106	10	1240
16	11	5.1	23	20	11	65	383	15	18	50	7.6	217
17	3.8	18	18	20	11	58	240	12	15	32	9.5	111
18	2.3	6.0	15	20	12	57	164	10	13	18	923	58
19	1.7	8.5	16	20	14	61	116	9.2	10	18	1650	48
20	1.5	4.7	20	19	15	58	99	8.2	32	15	391	36
21	.72	4.0	21	20	30	51	75	8.2	1270	13	572	29
22	.70	3.1	22	21	87	44	65	7.0	1170	12	219	26
23	2.3	9.2	21	22	1230	42	55	6.5	213	11	125	22
24	1.9	5.3	20	22	2780	51	47	12	109	12	330	19
25	2.1	4.4	19	22	1290	66	56	198	65	8.9	229	17
26	23	5.3	18	21	217	51	43	818	45	16	116	15
27	7.0	12	17	21	190	39	39	481	34	11	118	15
28	15	7.0	16	20	148	35	37	200	27	9.2	328	36
29	7.3	9.5	16	20	---	43	31	120	26	7.3	534	66
30	7.3	8.5	23	20	---	61	27	83	81	6.7	226	58
31	7.6	---	121	19	---	80	---	65	---	6.3	111	---
TOTAL	221.72	186.5	2950.9	3419	6237	7998	9344	2564.1	4585	1928.4	6559.1	3149
MEAN	7.15	6.22	95.2	110	223	258	311	82.7	153	62.2	212	105
MAX	34	18	811	1170	2780	2060	2780	818	1270	332	1650	1240
MIN	.70	2.3	3.6	19	10	35	27	6.5	10	6.3	7.6	15
CFSM	.08	.07	1.07	1.24	2.51	2.91	3.50	.93	1.72	.70	2.39	1.18
IN.	.09	.08	1.24	1.43	2.61	3.35	3.91	1.07	1.92	.81	2.75	1.32

CAL YR 1978 TOTAL 30419.12 MEAN 83.3 MAX 2840 MIN .70 CFSM .94 IN 12.74
WTR YR 1979 TOTAL 49142.72 MEAN 135 MAX 2780 MIN .70 CFSM 1.52 IN 20.59

04196200 BROKEN SWORD CREEK NEAR NEVADA, OH

LOCATION.--Lat 40°49'34", long 83°09'11", in sec. 32, T.25 N., R. 15 E., Wyandot County, Hydrologic Unit 04100011, on right bank at bridge on State Highway 182, 1.2 mi (1.93 km) northwest of Nevada, 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--83.8 mi² (217 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959, 1962-65, 1967, 1969-71. February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 880 ft (268 m) from topographic map.

REMARKS.--Records good except those for the winter period, which are fair. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3700 ft ³/s (105 m³/s) Mar. 15, 1978, Maximum recorded gage height 12.53 ft (3.82 m) Dec. 15, 1977; minimum observed discharge, 0.01 ft ³/s (0.0003 m³/s) Oct. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1100 ft³/s (31.2 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	1430	1620	45.9	10.56	3.219	Apr. 14	1700	*2630	74.5	*11.81	3.600
Mar. 4	1330	2370	67.1	11.53	3.514	Aug. 19	0900	1360	38.5	10.15	3.094

Minimum daily discharge 0.52 ft³/s (.015 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	1.3	5.0	566	15	232	70	24	44	21	21	47
2	1.0	2.8	5.0	936	14	543	80	22	52	20	54	37
3	1.3	2.5	18	527	14	1210	130	22	40	17	19	29
4	1.8	1.8	112	274	14	2150	229	24	33	15	12	25
5	1.9	1.6	98	66	14	1570	724	25	27	19	9.1	23
6	1.3	1.4	47	50	14	734	358	21	26	23	7.6	20
7	1.0	1.2	28	42	14	307	133	21	26	16	7.0	18
8	1.2	1.1	57	34	13	234	97	19	51	13	6.4	14
9	1.3	1.3	218	30	13	170	700	18	99	16	131	12
10	.85	1.3	128	27	13	369	827	295	158	55	57	11
11	.58	1.4	59	24	13	187	257	252	55	37	26	10
12	.78	1.6	39	23	13	82	179	70	35	24	18	9.1
13	3.1	1.6	29	22	13	68	295	51	25	25	15	8.6
14	5.0	1.6	24	21	13	87	2180	38	21	22	11	118
15	4.1	2.2	21	21	13	86	1510	33	17	39	10	473
16	2.7	2.6	19	20	13	56	532	28	15	20	8.6	295
17	3.8	2.8	17	20	13	48	218	23	14	14	8.0	67
18	3.5	5.0	15	20	13	45	128	20	12	11	599	43
19	2.6	5.3	13	20	13	50	86	18	12	10	1260	34
20	1.8	4.7	12	19	14	51	68	17	10	9.0	842	27
21	1.2	4.5	10	19	15	44	55	16	190	8.0	730	20
22	.92	4.3	8.6	19	61	44	47	13	880	7.3	280	18
23	.52	4.1	8.2	19	790	39	41	13	569	6.8	85	16
24	.78	4.1	8.0	19	1540	38	38	12	86	6.7	58	13
25	1.2	4.1	7.0	19	1290	40	37	34	47	6.7	152	11
26	2.1	4.1	6.8	19	687	39	35	648	34	24	113	9.7
27	4.9	4.1	7.6	18	337	34	34	783	26	21	54	9.0
28	3.2	4.7	8.6	17	293	31	30	315	22	12	54	9.1
29	2.6	5.0	9.8	17	---	37	28	104	18	9.8	309	15
30	2.2	5.0	11	16	---	62	25	66	20	7.8	315	22
31	1.5	---	23	15	---	81	---	53	---	6.6	86	---
TOTAL	61.47	89.1	1072.6	2959	5282	8768	9171	3098	2664	542.7	5357.7	1463.5
MEAN	1.98	2.97	34.6	95.5	189	283	306	99.9	88.8	17.5	173	48.8
MAX	5.0	5.3	218	936	1540	2150	2180	783	880	55	1260	473
MIN	.52	1.1	5.0	15	13	31	25	12	10	6.6	6.4	8.6
CFSM	.02	.04	.41	1.14	2.26	3.38	3.65	1.19	1.06	.21	2.06	.58
IN.	.03	.04	.48	1.31	2.34	3.89	4.07	1.38	1.18	.24	2.38	.65

CAL YR 1978 TOTAL 37573.16 MEAN 103 MAX 2530 MIN .15 CFSM 1.23 IN 16.68
WTR YR 1979 TOTAL 40529.07 MEAN 111 MAX 2180 MIN .52 CFSM 1.33 IN 17.99

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH

LOCATION.--Lat 40°51'02", long 83°15'23", in sec. 21, T.2 S., R.14 E., Wyandot County, Hydrologic Unit 04100011, on left bank at downstream side of county road bridge, 0.7 mi (1.1 km) downstream from unnamed right bank tributary, 0.8 mi (1.3 km) upstream from Rock Run, and 2 mi (3 km) northeast of Upper Sandusky.

DRAINAGE AREA.--298 mi² (772 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to December 1935, January 1938 to current year. Gage height records collected at site 3 mi (5 km) upstream since 1912 (fragmentary) are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 874: 1927-30, 1933. WSP 1387: 1922(M), 1923-29, 1944. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 792.25 ft (241.478 m) National Geodetic Vertical Datum of 1929. prior to Sept. 14, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--55 years, 243 ft³/s (6.882 m³/s), 11.07 in/yr 281 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 10,000 ft³/s (283 m³/s) Jan. 22, 1959; maximum gage height, 15.00 ft (4.572 m) in gage well, 15.55 ft (4.740 m) from outside floodmark, Jan. 22, 1959 (ice jam): minimum discharge, 0.50 ft³/s (0.014 m³/s) Oct. 2, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1937 reached a stage of 14.3 ft (4.36 m), from high-water marks in gage well.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	1500	4070	115	7.70	2.347	Apr. 15	1200	*6740	191	*10.23	3.118
Mar. 5	1000	6100	173	9.67	2.947	Aug. 20	0330	2610	73.9	6.03	1.838

Minimum discharge, 1.5 ft³/s (0.042 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	15	19	899	52	469	231	93	177	207	39	240
2	5.6	13	21	1400	50	893	228	88	179	282	130	166
3	8.6	12	71	1200	50	1930	483	92	164	164	187	130
4	20	12	307	600	50	4280	540	101	130	111	101	128
5	29	13	521	340	50	5720	1570	99	109	107	55	105
6	23	12	216	280	48	2920	1070	92	97	135	39	88
7	16	13	117	220	46	1220	554	81	92	84	32	68
8	17	12	130	170	46	899	393	78	135	56	29	59
9	11	13	607	140	44	748	1190	74	151	81	55	46
10	9.6	12	592	120	44	905	1870	103	776	310	279	40
11	8.6	11	231	110	45	839	887	642	511	318	128	35
12	10	14	147	94	46	425	678	296	228	169	71	34
13	21	13	103	86	46	303	839	204	144	111	78	33
14	43	15	71	80	46	329	4190	156	107	139	52	234
15	40	14	68	76	46	379	6330	128	84	318	34	1700
16	37	13	63	72	46	276	2310	109	70	164	26	1050
17	24	28	53	70	46	237	923	84	60	92	23	352
18	21	17	43	68	46	234	612	71	55	63	348	201
19	17	32	39	66	48	253	416	65	48	46	2050	139
20	14	22	35	66	50	253	310	59	44	39	1830	105
21	11	16	33	64	54	225	253	55	149	35	1220	79
22	10	14	32	64	90	196	216	49	1880	39	887	63
23	10	14	32	64	1460	166	185	44	1200	33	387	55
24	9.6	14	32	66	3320	166	164	52	391	37	296	48
25	9.6	15	30	66	3630	172	154	130	201	40	521	41
26	11	16	27	66	1220	174	151	1170	133	71	391	38
27	13	18	26	64	668	142	139	1570	97	59	234	34
28	35	17	26	62	583	122	128	893	76	48	237	44
29	20	18	30	60	---	124	115	429	68	35	967	76
30	16	19	37	56	---	159	103	279	70	29	1040	124
31	18	---	66	54	---	222	---	210	---	25	447	---
TOTAL	543.8	467	3825	6843	11970	25380	27222	7596	7626	3447	12213	5555
MEAN	17.5	15.6	123	221	428	819	907	245	254	111	394	185
MAX	43	32	607	1400	3630	5720	6330	1570	1880	318	2050	1700
MIN	5.2	11	19	54	44	122	103	44	44	25	23	33
CFSM	.06	.05	.41	.74	1.44	2.75	3.04	.82	.85	.37	1.32	.62
IN.	.07	.06	.48	.85	1.49	3.17	3.40	.95	.95	.43	1.52	.69

CAL YR 1978 TOTAL 90961.2 MEAN 249 MAX 6680 MIN 1.7 CFSM .84 IN 11.35
WTR YR 1979 TOTAL 112688.8 MEAN 309 MAX 6330 MIN 5.2 CFSM 1.04 IN 14.07

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1969 to current year (discontinued).
pH: April 1977 to current year (discontinued).
WATER TEMPERATURES: June 1969 to current year (discontinued).
DISSOLVED OXYGEN: June 1969 to current year (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos Sept. 14, 15, 1978; minimum, 162 micromhos Mar. 4, 5, 1979.
pH: Maximum, 9.7 units Aug. 16, 1979; minimum, 7.0 units June 17, 1977.
WATER TEMPERATURES: Maximum, 33.0°C Aug. 9, 1969; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L Aug. 21, 22, Sept. 2, 1978; minimum, 0.1 mg/L Aug. 31, Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,710 micromhos Oct. 4; minimum recorded, 162 micromhos Mar. 4, 5.
pH: Maximum recorded, 9.7 units Aug. 16; minimum recorded, 7.2 units Nov. 6.
WATER TEMPERATURES: Maximum recorded 29.0°C July 31; minimum recorded, 0.0°C on many days during winter.
DISSOLVED OXYGEN: Maximum recorded, 18.0 mg/L Oct. 18; minimum recorded, 0.3 mg/L Oct. 4.

SPECIFIC CONDUCTANCE (MICROMMOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1500	1260	1210	957	1080	960	894	441	843	606	489	423
2	1580	1270	1240	999	1050	966	458	279	894	615	483	402
3	1560	1140	1330	1070	1070	674	417	279	852	618	399	216
4	1710	925	1370	1190	933	705	546	399	915	729	207	162
5	1300	1110	1470	1130	702	565	633	525	972	627	219	162
6	1240	1010	1570	1340	684	590	650	579	1010	822	312	222
7	1170	936	1660	1240	706	612	711	588	945	930	381	318
8	1070	849	1530	1190	702	615	741	666	969	945	417	384
9	1010	873	1580	1250	657	504	792	675	987	957	447	411
10	1110	927	1610	1120	552	396	822	741	1010	951	453	432
11	1260	990	1550	1410	543	396	891	810	1020	993	471	438
12	1360	1040	1630	1200	639	432	945	864	1030	1020	534	474
13	1500	813	---	---	708	621	951	891	1040	1020	576	534
14	1340	897	1140	952	798	696	1190	825	1050	1040	582	567
15	1080	840	1380	1090	834	762	915	717	1110	1060	564	540
16	---	---	1400	1220	843	777	939	654	1060	1020	588	558
17	---	---	1210	554	894	831	1020	819	1030	1000	606	582
18	1060	816	1250	1000	918	780	897	768	1030	972	600	598
19	1160	975	1240	1170	942	804	854	681	1020	1010	600	591
20	1310	1040	1280	1180	966	705	1080	660	1060	1020	612	600
21	1320	990	1290	1100	1020	882	---	---	1390	1030	621	603
22	1230	909	1270	1100	981	810	---	---	1460	858	636	612
23	1280	1070	1260	1040	1030	861	---	---	954	408	660	618
24	1310	960	1320	1030	996	933	959	633	444	198	681	660
25	1360	1030	1290	1050	984	912	957	735	216	174	678	657
26	1350	1200	1270	1100	990	732	855	636	324	222	699	255
27	1430	1070	1510	1190	1080	774	798	639	393	327	372	216
28	1350	1020	1480	1180	1090	942	825	645	423	393	582	381
29	1190	1070	1310	980	1200	1020	816	609	---	---	---	---
30	1260	1000	1110	1010	1100	1040	723	603	---	---	---	---
31	1220	1000	---	---	1100	777	819	603	---	---	---	---
MONTH	1710	813	1660	554	1200	396	1190	279	1460	174	699	162

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	708	672					---	---	---	---
2	---	---	702	660					---	---	---	---
3	636	615	702	569					---	---	---	---
4	612	513	711	693					---	---	---	---
5	495	420	723	705					---	---	---	---
6	492	423	723	690					---	---	---	---
7	564	501	726	681					---	---	---	---
8	597	564	750	708					---	---	---	---
9	582	429	759	714					---	---	---	---
10	423	393	---	---					---	---	---	---
11	513	426	---	---					---	---	---	---
12	537	513	---	---					---	---	---	---
13	552	330	---	---					---	---	---	---
14	306	225	---	---					600	204	---	---
15	291	210	---	---					693	606	---	---
16	393	300	---	---					759	696	---	---
17	450	396	---	---					786	756	---	---
18	492	450	---	---					---	---	---	---
19	543	498	---	---					---	---	---	---
20	585	546	---	---					---	---	---	---
21	621	582	---	---					---	---	654	615
22	630	612	---	---					---	---	666	651
23	672	630	---	---					---	---	696	669
24	678	657	---	---					---	---	702	687
25	672	666	---	---					---	---	714	702
26	693	678	---	---					---	---	732	708
27	690	663	---	---					---	---	735	717
28	678	666	---	---					---	---	729	675
29	693	675	---	---					---	---	696	651
30	705	684	---	---					---	---	693	669
31	---	---	---	---					---	---	---	---
MONTH	705	210	759	560					786	204	735	615
YEAR	1710	162										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	8.1	8.3	7.9	8.4	8.2	8.4	7.8	8.0	7.9		
2	9.1	8.2	8.7	7.4	8.4	8.2	8.0	7.8	8.4	7.9		
3	8.9	8.2	7.7	7.3	8.4	7.7	8.1	7.9	8.4	8.2		
4	8.5	7.5	8.3	7.6	8.6	8.0	8.3	8.0	8.4	8.1		
5	8.9	8.4	8.0	7.4	8.4	7.9	8.2	8.1	8.2	8.1		
6	8.9	8.4	7.7	7.2	8.0	7.9	8.4	8.2	8.3	8.0		
7	9.2	8.7	7.8	7.4	8.5	8.0	8.3	8.2	---	---		
8	9.4	8.9	8.5	7.6	8.1	8.0	8.3	8.2	---	---		
9	9.4	8.9	8.2	7.7	8.4	8.1	9.3	8.2	---	---		
10	9.1	8.6	8.1	7.7	8.8	8.2	8.4	7.9	---	---		
11	9.2	8.5	8.4	7.8	8.4	8.3	8.1	7.9	---	---		
12	9.1	8.4	8.2	7.6	8.6	8.2	8.1	7.9	---	---		
13	8.6	8.1	7.9	7.6	8.8	8.4	8.1	7.9	---	---		
14	9.1	8.2	7.9	7.4	8.9	8.5	8.2	8.0	---	---		
15	9.1	8.7	7.7	7.6	8.9	8.4	8.2	7.8	---	---		
16	8.8	8.5	8.1	7.6	9.0	8.6	8.2	7.8	---	---		
17	8.7	7.7	7.7	7.3	8.9	8.6	8.3	8.0	---	---		
18	9.3	8.3	7.8	7.4	8.8	8.5	8.2	8.1	---	---		
19	8.5	8.2	8.1	7.8	8.7	8.5	8.3	8.1	---	---		
20	8.7	7.9	8.1	8.0	8.7	8.3	8.2	7.9	---	---		
21	8.8	8.1	8.1	8.0	8.6	8.2	7.9	7.7	---	---		
22	8.4	7.6	8.1	8.0	8.6	8.4	8.0	7.9	---	---		
23	8.5	7.6	8.0	7.7	8.8	8.5	7.9	7.8	---	---		
24	8.6	8.0	8.1	7.7	8.8	8.5	8.1	7.9	---	---		
25	8.6	7.9	8.2	8.0	8.7	8.4	8.0	7.8	---	---		
26	7.9	7.5	8.2	8.0	8.9	8.4	8.1	7.8	---	---		
27	8.4	7.4	8.1	7.8	8.7	8.5	8.0	7.8	---	---		
28	8.0	7.4	8.1	7.8	---	---	8.1	7.9	---	---		
29	8.3	7.9	8.3	8.0	8.5	8.2	7.9	7.9	---	---		
30	8.4	8.1	8.5	8.1	8.4	8.1	8.1	7.8	---	---		
31	8.2	7.6	---	---	8.2	7.8	8.1	7.9	---	---		
MONTH	9.4	7.4	8.7	7.2	9.0	7.7	9.3	7.7	8.4	7.9		

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.7	8.3	---	---	8.4	8.1	---	---	---	---
2	---	---	8.8	8.3	---	---	8.2	7.9	---	---	---	---
3	8.3	8.2	8.4	8.2	---	---	8.1	8.0	---	---	---	---
4	8.6	7.7	9.2	8.0	---	---	8.2	8.1	---	---	---	---
5	8.0	7.6	9.3	8.4	---	---	---	---	---	---	---	---
6	8.3	7.7	8.9	8.4	---	---	8.4	7.7	---	---	---	---
7	8.5	7.5	9.1	8.4	---	---	8.1	7.8	---	---	---	---
8	8.6	7.6	9.2	8.3	---	---	8.2	7.8	---	---	---	---
9	8.5	7.9	---	---	---	---	8.0	7.5	---	---	---	---
10	8.4	8.0	---	---	---	---	7.7	7.3	---	---	---	---
11	8.2	8.0	---	---	---	---	7.9	7.6	---	---	---	---
12	8.3	8.0	---	---	---	---	8.0	7.8	---	---	---	---
13	8.1	7.5	---	---	---	---	8.0	7.7	---	---	---	---
14	7.8	7.7	---	---	---	---	8.2	7.7	8.5	8.0	---	---
15	8.0	7.8	---	---	---	---	8.3	7.8	8.8	7.9	---	---
16	8.2	7.9	---	---	---	---	8.1	7.8	9.7	8.5	---	---
17	8.2	8.1	---	---	---	---	8.4	7.9	9.0	8.1	---	---
18	8.2	8.1	---	---	---	---	8.5	8.0	---	---	---	---
19	8.6	8.2	---	---	---	---	8.1	8.0	---	---	---	---
20	8.3	8.1	---	---	---	---	8.2	8.0	---	---	8.2	8.1
21	8.2	7.9	---	---	---	---	---	---	---	---	8.5	8.1
22	8.1	8.0	---	---	---	---	---	---	---	---	8.6	8.2
23	8.1	8.0	---	---	---	---	---	---	---	---	8.8	8.3
24	8.1	7.9	---	---	---	---	---	---	---	---	8.7	8.2
25	8.2	7.9	---	---	---	---	---	---	---	---	8.9	8.2
26	8.5	8.1	---	---	---	---	---	---	---	---	8.9	8.3
27	---	---	---	---	---	---	---	---	---	---	8.4	8.2
28	---	---	---	---	8.4	7.8	---	---	---	---	8.4	7.3
29	8.8	8.5	---	---	8.2	7.9	---	---	---	---	8.4	8.1
30	8.9	8.4	---	---	8.2	7.9	---	---	---	---	8.5	8.2
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	8.9	7.5	9.3	8.0	8.4	7.8	8.5	7.3	9.7	7.9	8.9	7.3
YEAR	9.7	7.2										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	17.0	13.5	8.5	5.0	2.5	1.5	.5	.5	.0	1.5	.5
2	21.0	14.5	14.0	5.5	4.5	3.5	1.0	.0	.5	.0	1.0	.5
3	18.0	14.0	14.5	7.5	7.0	3.5	.0	.0	.5	.0	1.5	.5
4	18.0	15.5	15.5	8.5	7.5	5.0	.5	.0	.5	.0	3.0	.5
5	16.0	14.0	15.5	10.0	5.0	4.5	.5	.0	.5	.0	4.0	3.0
6	15.0	14.0	14.0	10.0	5.0	4.5	.5	.0	1.0	.0	4.0	3.0
7	15.5	12.5	9.5	8.0	5.0	4.5	.5	.0	1.0	.0	4.5	3.0
8	15.0	11.5	12.0	5.0	6.0	4.5	.5	.0	2.5	.0	5.0	4.0
9	16.5	9.5	12.0	5.0	4.5	3.0	.5	.0	3.0	2.0	5.0	4.0
10	19.0	11.0	9.5	7.0	3.0	.5	.5	.0	3.5	2.0	4.0	3.0
11	16.0	12.5	13.5	5.5	1.0	.5	.5	.0	2.5	2.0	3.0	1.0
12	17.5	14.0	10.5	9.5	2.5	1.0	.5	.0	3.0	1.5	3.0	1.0
13	16.5	14.5	11.5	8.5	2.0	1.0	.5	.0	3.0	1.5	4.5	2.0
14	14.5	13.0	12.0	8.5	1.5	.5	.5	.0	3.0	1.0	4.5	1.5
15	14.0	11.5	8.0	7.0	2.5	.5	.0	.0	1.0	.5	2.5	.0
16	12.0	11.0	9.0	5.5	2.0	.5	.5	.0	1.0	.5	5.0	1.5
17	13.5	9.5	11.0	8.0	2.0	1.0	.5	.0	1.0	.5	5.5	1.5
18	14.0	10.0	9.0	7.0	2.0	.5	.5	.0	1.0	.5	9.0	5.0
19	15.0	12.0	7.5	6.5	1.0	.5	.5	.0	1.5	.5	9.0	7.0
20	17.0	10.5	7.5	6.5	3.5	1.0	.5	.0	.5	.0	11.0	8.0
21	18.0	10.5	6.5	5.0	3.0	1.0	.5	.0	.5	.0	12.0	8.5
22	18.5	12.0	6.5	5.5	2.0	.0	.5	.0	1.0	.5	12.5	8.5
23	15.5	11.5	8.0	6.0	2.0	.0	.5	.0	1.0	.5	11.5	10.5
24	14.5	8.5	8.0	5.5	1.0	.0	.5	.0	1.0	.0	11.0	8.0
25	14.0	8.0	6.5	5.0	1.0	.0	.5	.0	.0	.0	8.0	6.0
26	14.0	12.5	6.0	3.5	.5	.0	.5	.5	1.0	.0	7.5	5.5
27	16.0	8.5	5.0	2.5	.5	.0	.5	.5	2.0	.5	---	---
28	12.5	10.0	5.5	3.0	.0	.0	.5	.5	1.5	.0	---	---
29	13.0	8.5	4.0	2.0	.5	.0	.5	.5	---	---	---	---
30	14.0	7.5	6.0	3.5	1.0	.5	.5	.0	---	---	---	---
31	15.5	9.5	---	---	2.0	1.0	1.0	.0	---	---	---	---
MONTH	21.0	7.5	15.5	2.0	7.5	.0	1.5	.0	3.5	.0	12.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	16.0	10.5	---	---	19.5	17.5	26.0	23.0	---	---
2	---	---	18.0	11.5	---	---	17.5	16.5	24.5	23.0	---	---
3	9.5	8.5	16.0	15.5	---	---	20.5	16.5	25.0	22.5	---	---
4	8.0	6.0	15.5	12.5	---	---	20.5	19.0	26.5	23.5	---	---
5	7.0	5.5	16.0	11.0	---	---	22.0	17.0	27.0	23.0	---	---
6	7.0	4.5	19.0	13.0	---	---	22.0	18.5	27.0	23.0	---	---
7	8.5	6.0	---	---	---	---	23.0	19.5	24.5	22.5	---	---
8	9.0	7.0	---	---	---	---	24.5	19.0	27.0	25.0	---	---
9	7.0	6.5	---	---	---	---	24.0	21.0	27.5	23.5	---	---
10	8.0	6.5	---	---	---	---	23.5	20.5	25.5	24.5	---	---
11	8.0	7.5	---	---	---	---	24.5	22.0	25.0	21.5	---	---
12	12.5	6.0	---	---	---	---	25.5	23.0	22.5	19.5	---	---
13	13.0	12.0	---	---	---	---	26.0	24.5	22.5	19.0	---	---
14	13.0	11.5	---	---	---	---	27.5	24.0	23.0	20.5	---	---
15	12.5	10.5	---	---	---	---	27.5	25.0	20.5	17.5	---	---
16	10.0	9.5	---	---	---	---	28.0	25.0	22.5	17.0	---	---
17	11.0	9.0	---	---	---	---	27.0	24.5	21.0	17.5	---	---
18	12.5	10.0	---	---	---	---	25.5	22.0	---	---	---	---
19	12.5	9.5	---	---	---	---	25.5	20.5	---	---	---	---
20	14.5	10.5	---	---	---	---	25.5	21.0	---	---	18.0	16.5
21	15.0	12.5	---	---	---	---	---	---	---	---	17.5	16.5
22	15.5	13.5	---	---	---	---	---	---	---	---	16.5	15.5
23	17.0	13.0	---	---	---	---	27.0	22.5	---	---	17.0	13.5
24	18.0	15.5	---	---	---	---	25.0	23.0	---	---	18.0	13.5
25	19.5	17.0	---	---	---	---	24.0	22.5	---	---	19.0	14.0
26	19.0	17.0	---	---	---	---	25.5	22.0	---	---	19.5	15.0
27	17.0	14.5	---	---	---	---	26.0	22.5	---	---	18.5	15.5
28	14.5	12.0	---	---	24.0	20.0	24.5	23.5	---	---	18.5	17.0
29	13.5	11.0	---	---	23.0	21.0	27.5	22.5	---	---	19.5	17.0
30	14.0	11.0	---	---	21.5	19.5	26.0	22.0	---	---	19.5	17.5
31	---	---	---	---	---	---	29.0	24.0	---	---	---	---
MONTH	19.5	4.5	19.0	10.5	24.0	19.5	29.0	16.5	27.5	17.0	19.5	13.5
YEAR	29.0	.0										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.4	3.5	11.2	5.2	12.6	9.2	11.0	10.1	12.2	10.5	11.3	10.6
2	18.0	3.8	11.2	4.5	12.3	9.2	11.3	10.2	12.5	10.6	11.1	10.7
3	14.4	7.0	10.5	3.5	10.3	9.1	12.0	11.4	12.1	10.4	11.5	11.0
4	7.4	.3	11.2	3.3	10.7	9.1	12.0	11.7	12.0	9.8	11.3	10.8
5	8.9	5.1	11.9	2.9	10.9	9.2	12.1	11.9	12.5	10.9	10.9	10.6
6	8.8	3.4	10.5	2.5	11.0	10.3	12.1	11.0	13.0	10.6	11.2	10.7
7	12.0	6.1	7.0	2.9	11.0	10.8	11.9	11.6	12.6	10.6	11.3	11.0
8	11.2	6.7	8.7	1.8	10.5	10.0	11.7	11.4	12.5	10.3	11.2	11.0
9	13.0	7.8	10.0	1.8	10.9	10.4	11.9	11.2	12.0	10.5	11.3	11.0
10	13.8	6.4	9.0	2.4	12.3	11.0	11.4	10.9	12.5	10.4	11.6	11.7
11	14.7	6.0	12.2	2.6	12.4	11.8	11.4	10.9	12.3	10.4	12.3	11.7
12	13.6	5.5	5.9	2.5	12.3	11.8	11.3	9.2	10.9	9.5	12.8	12.3
13	4.7	2.1	10.6	2.8	12.0	11.7	10.7	9.9	11.3	9.2	12.4	11.8
14	7.3	3.7	10.3	2.6	12.2	10.2	11.6	9.2	10.6	8.9	12.7	11.5
15	11.3	7.4	6.5	1.6	12.4	11.6	12.1	10.1	11.1	9.4	13.6	12.7
16	10.1	8.2	12.8	3.1	12.3	11.6	11.7	9.7	11.9	9.4	13.9	13.3
17	10.9	7.8	6.9	3.5	12.3	11.6	10.6	9.9	12.6	9.8	13.5	12.8
18	11.9	7.6	6.8	4.4	12.6	11.6	11.2	10.3	11.9	9.8	12.8	11.5
19	11.3	7.0	7.8	5.0	12.4	11.3	11.1	10.1	11.4	9.8	11.6	10.8
20	11.5	6.2	8.6	5.8	11.8	10.7	11.1	9.8	11.7	9.8	11.5	10.7
21	12.0	5.4	9.7	6.8	11.9	9.7	11.4	9.8	12.1	9.7	11.4	10.5
22	12.6	4.7	9.9	7.2	11.9	10.1	11.6	9.9	11.8	8.7	11.5	10.4
23	8.2	4.2	8.6	5.7	12.2	10.2	12.3	10.2	11.2	9.6	10.9	9.1
24	11.1	4.0	7.8	4.4	12.1	11.0	11.5	10.4	12.0	10.7	10.3	9.3
25	9.3	2.3	10.6	6.3	12.5	10.9	12.0	9.5	12.1	11.0	12.0	10.3
26	6.7	3.5	9.4	7.1	12.4	10.7	11.2	10.2	11.6	10.2	12.9	11.6
27	9.8	2.4	9.5	7.6	12.7	11.5	10.7	9.7	11.1	10.0	12.7	10.5
28	8.6	2.7	10.0	6.9	13.0	11.4	11.5	10.4	11.0	9.6	11.9	11.0
29	10.9	7.3	10.9	8.0	12.1	10.9	12.0	10.5	---	---	---	---
30	12.3	7.6	12.0	9.1	11.1	10.0	12.7	10.7	---	---	---	---
31	12.5	7.2	---	---	11.1	9.4	12.3	10.9	---	---	---	---
MONTH	18.0	.3	12.8	1.6	13.0	9.1	12.7	9.2	13.0	8.7	13.9	9.1

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	12.5	8.9	---	---	7.4	5.8	---	---		
2	---	---	13.1	8.8	---	---	8.0	6.9	---	---		
3	11.6	10.5	---	---	---	---	8.3	6.4	---	---		
4	11.5	10.1	---	---	---	---	7.8	6.1	---	---		
5	10.6	10.1	---	---	---	---	9.6	1.4	---	---		
6	11.7	10.2	---	---	---	---	7.0	5.3	---	---		
7	12.3	11.1	---	---	---	---	6.8	5.2	---	---		
8	11.5	10.5	---	---	---	---	9.4	5.5	---	---		
9	10.7	10.2	---	---	---	---	---	---	---	---		
10	11.3	10.2	---	---	---	---	---	---	---	---		
11	11.8	10.3	---	---	---	---	---	---	---	---		
12	10.6	9.3	---	---	---	---	---	---	---	---		
13	9.6	8.3	---	---	---	---	---	---	---	---		
14	9.1	8.6	---	---	---	---	---	---	5.7	3.0		
15	9.0	8.2	---	---	---	---	---	---	4.6	4.2		
16	9.4	8.7	---	---	---	---	---	---	5.3	4.0		
17	9.8	9.1	---	---	---	---	---	---	5.5	4.8		
18	9.4	8.8	---	---	---	---	---	---	---	---		
19	9.1	8.5	---	---	---	---	---	---	---	---		
20	8.8	8.1	---	---	---	---	---	---	---	---		
21	9.3	8.1	---	---	---	---	---	---	---	---		
22	9.7	7.9	---	---	---	---	---	---	---	---		
23	9.9	8.0	---	---	---	---	---	---	---	---		
24	8.8	7.6	---	---	---	---	---	---	---	---		
25	8.3	6.9	---	---	---	---	---	---	---	---		
26	8.2	6.3	---	---	---	---	---	---	---	---		
27	9.8	6.6	---	---	---	---	---	---	---	---		
28	10.1	7.8	---	---	7.3	5.8	---	---	---	---		
29	11.7	8.9	---	---	6.7	5.3	---	---	---	---		
30	12.0	9.5	---	---	6.7	4.0	---	---	---	---		
31	---	---	---	---	---	---	---	---	---	---		
MONTH	12.3	6.3	13.1	8.8	7.3	4.0	9.6	1.4	5.7	3.0		
YEAR	18.0	.3										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04196800 TYMOCHTEE CREEK AT CRAWFORD, OH

LOCATION.--Lat 40°55'22", long 83°20'56", in SE 1/4 sec. 27, T.1 S., R.13 E., Wyandot County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on State Highway 199 (formerly U.S. Highway 23), 0.4 mi (0.6 km) northwest of Crawford, 1.5 mi (2.4 km) downstream from Lick Run, 2.7 mi (4.3 km) upstream from Little Tymochtee Creek, and 3 mi (5 km) southeast of Carey.

DRAINAGE AREA.--229 mi² (593 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961-63, and annual maximum, water years 1961-64, June 1964 to current year.

REVISED RECORDS.--WRD Ohio 1969: 1964(P), 1966(M), 1967(P).

GAGE.--Water-stage recorder. Datum of gage is 785.86 ft (239.530 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair and those below 1.0 ft³/s (.03 m³/s) which are poor. Beginning Mar. 9, 1972 water was diverted at a point 29.4 mi (47.3 km) upstream from station into Killdeer Reservoir. Storage is available for low-flow augmentation. During the year, short term withdrawals totaled 132.1 mil gal (0.500 hm³), equivalent to a mean annual withdrawal of 0.560 ft³/s (0.016 m³/s). Water-quality data collected at this site 1968 to 1977. Sediment data collected 1970 to 1974. No releases were made for low-flow augumentation. Short term releases for repair during the year totaled 314 mil gal (1.19 hm³), equivalent to a mean annual release of 1.33 ft³/s (.038 m³/s).

AVERAGE DISCHARGE.--15 years, 170 ft³/s (4.814 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,390 ft³/s (181 m³/s) March 17, 1978, gage height, 9.94 ft (3.030 m); maximum gage height, 11.21 ft (3.417 m) Mar. 6, 1963 (backwater from ice); no flow Aug. 10, Sept. 13-18, Oct. 23 to Nov. 4, 1964, Aug. 23-26, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1959 reached a stage of 12.9 ft (3.93 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1800 ft³/s (51.0m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 26	1645	2700	76.5	a6.96	2.121	Apr. 15	1630	b2810	79.6	7.31	2.228
Mar. 5	1430	*b4330	123	*8.58	2.615						

Minimum daily discharge, 0.01 ft³/s (0.0003 m³/s) Oct. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	3.5	8.6	309	11	800	81	34	83	5.3	146	288
2	.01	3.5	8.6	761	10	700	92	30	64	6.2	261	273
3	.01	3.5	20	825	10	1610	144	31	53	6.0	206	152
4	.25	3.0	31	821	10	2960	315	31	46	6.2	138	118
5	.20	3.0	55	461	10	4020	733	34	36	6.8	73	78
6	.36	3.5	47	160	9.8	3250	875	34	33	7.2	46	61
7	.36	5.7	36	74	9.8	1680	582	32	29	7.7	30	50
8	.27	6.2	31	50	9.6	968	316	28	29	6.6	24	35
9	.20	6.2	90	36	9.5	659	458	27	26	20	21	26
10	.27	6.2	149	28	9.5	663	604	26	30	168	30	22
11	.66	6.2	111	22	9.5	630	485	27	33	205	36	17
12	1.4	6.2	65	18	9.5	371	421	29	26	159	20	14
13	4.1	6.2	36	16	9.5	213	649	33	21	80	16	12
14	5.7	6.8	27	15	9.5	218	1690	37	18	90	13	64
15	5.7	7.4	17	15	9.5	263	2480	33	16	68	9.6	180
16	6.8	8.0	13	14	9.5	215	1950	30	14	34	8.0	286
17	6.2	11	11	14	9.3	176	910	27	11	19	7.6	174
18	5.7	10	9.7	14	9.1	190	387	27	9.7	13	194	91
19	4.8	10	9.4	13	9.3	221	255	26	9.6	11	138	56
20	4.8	11	8.0	13	9.8	217	179	20	8.7	8.7	88	40
21	5.7	11	7.1	13	11	180	128	16	9.2	7.9	107	32
22	6.2	10	6.8	13	14	144	104	16	8.0	8.2	118	24
23	5.2	10	6.8	13	20	117	83	13	8.1	95	158	19
24	4.8	10	6.8	13	150	94	68	13	8.4	68	352	16
25	5.2	9.3	6.0	13	1850	88	50	61	7.3	30	138	15
26	6.2	8.0	5.6	14	2100	79	58	421	6.8	214	97	12
27	6.2	9.3	5.4	14	1500	60	55	720	7.0	196	83	11
28	5.7	8.6	5.2	14	950	47	50	646	6.5	57	100	11
29	5.2	8.0	5.1	13	---	61	46	323	6.4	37	354	13
30	4.8	8.6	5.5	13	---	71	40	184	5.9	31	543	14
31	4.1	---	14	12	---	79	---	117	---	25	516	---
TOTAL	107.11	219.9	857.6	3924	6788.7	21044	14308	3126	669.6	1696.8	4071.2	2204
MEAN	3.46	7.33	27.7	123	242	679	477	101	22.3	54.7	131	73.5
MAX	6.8	11	149	825	2100	4020	2480	720	83	214	543	288
MIN	.01	3.0	5.1	12	9.1	47	40	13	5.9	5.3	7.6	11

CAL YR 1978 TOTAL 66851.52 MEAN 183 MAX 6000 MIN .01
WTR YR 1979 TOTAL 58916.91 MEAN 161 MAX 4020 MIN .01

a Ice jam
b Not adjusted for Killdeer Reservoir

04197000 SANDUSKY RIVER NEAR MEXICO, OH

LOCATION.--Lat 41°02'39", long 83°11'42", in sec. 13, T.1 N., R.14 E., Seneca County, Hydrologic Unit 04100011, on right bank at downstream side of county road bridge, 4.1 mi (6.6 km) upstream from Honey Creek, 4.2 mi (6.8 km) north of Mexico, 4.9 mi (7.9 km) south of Tiffin, and 8.3 mi (13.4 km) downstream from Mile Run.

DRAINAGE AREA.--774 mi^2 (2,005 km^2).

PERIOD OF RECORD.--November 1898 to November 1900 (gage height and discharge measurements only), March 1923 to December 1935, July 1938 to current year. Discharge records for November 1898 to November 1900, published in 22nd Annual Report, Part 4, are unreliable and should not be used.

REVISED RECORDS.--WSP 714: 1929-30. WSP 874: 1927(M). WSP 1387: 1925, 1928-29, 1930(M), 1931. WSP 1912: Drainage area. See also Period of Record.

GAGE.--Water-stage recorder. Datum of gage is 733.1 ft (223.45 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1929, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Water-quality data collected at this site 1965, 1966, 1969, 1971 to 1973, 1976, 1977. Sediment data collected 1969 to 1974.

AVERAGE DISCHARGE.--53 years, 579 ft^3/s (16.40 m^3/s), 10.16 in/yr (258 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft^3/s (535 m^3/s) Jan. 23, 1959, gage height, 22.43 ft (6.837 m), from floodmark; minimum, 1.8 ft^3/s (0.051 m^3/s) Oct. 31, 1942, during repairs to small dam upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1937 reached a stage of 22.5 ft (6.86 m), from information by local residents, discharge, 19,000 ft^3/s (538 m^3/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft^3/s (119 m^3/s) and maximums (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft^3/s)	(m^3/s)	(ft)	(m)			(ft^3/s)	(m^3/s)	(ft)	(m)
Feb. 24	1430	ice	jam	13.94	4.249	Apr. 16	2030	9620	272	15.93	4.855
Feb. 26	---	a6600	187	b13.67	4.167	Aug. 18	2100	4710	133	11.26	3.432
Mar. 6	1430	*11400	323	*17.27	5.264						

Minimum daily discharge, 14 ft^3/s (0.396 m^3/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	50	4100	62	3020	593	187	423	108	371	996
2	21	20	45	3800	60	3070	550	167	359	303	875	976
3	20	19	167	1200	56	4800	593	161	321	295	686	658
4	20	18	693	700	54	7450	976	165	263	202	481	478
5	21	17	786	400	54	9540	3330	169	227	149	260	375
6	23	17	662	280	52	11100	3180	171	211	149	163	260
7	25	17	356	220	52	8670	2190	163	194	161	113	213
8	29	17	315	190	52	4740	1290	141	353	112	167	169
9	28	18	836	170	50	2610	2240	126	315	309	708	139
10	25	18	1130	150	50	2460	3370	121	512	840	303	113
11	23	19	712	130	50	2400	2670	563	1060	820	384	100
12	20	20	414	120	50	1620	1680	637	503	610	220	91
13	18	20	284	110	50	963	1770	362	260	362	135	85
14	20	20	204	110	50	816	6820	268	179	271	115	368
15	32	20	143	110	50	963	8040	222	139	362	95	1600
16	54	20	143	100	50	840	9100	187	113	365	72	2170
17	43	22	128	90	50	648	6850	157	100	198	61	1190
18	30	50	115	84	50	590	2590	126	88	124	2650	557
19	20	82	102	78	50	665	1280	112	79	100	3530	329
20	18	47	90	76	52	726	915	105	73	94	3380	227
21	17	47	85	74	60	665	659	100	478	83	2680	177
22	16	38	82	74	150	563	531	88	1580	66	1860	143
23	15	32	80	76	500	485	443	80	2040	68	1120	119
24	14	32	76	78	1500	440	368	77	988	175	1680	102
25	15	32	72	84	5000	428	329	147	381	149	1130	95
26	17	32	68	100	6000	403	303	2320	215	220	863	86
27	18	32	66	100	4400	359	290	3280	151	590	655	77
28	19	38	66	92	3600	292	255	2650	115	284	596	76
29	20	47	75	80	---	449	241	1520	100	145	1160	88
30	30	54	130	76	---	576	213	847	103	102	2040	119
31	30	---	500	68	---	603	---	560	---	89	1680	---
TOTAL	722	887	8675	13120	22254	72954	63689	15979	11923	7905	30233	12176
MEAN	23.3	29.6	280	423	795	2353	2123	515	397	255	975	406
MAX	54	82	1130	4100	6000	11100	9100	3280	2040	840	3530	2170
MIN	14	17	45	68	50	292	213	77	73	66	61	76
CFSM	.03	.04	.36	.55	1.03	3.04	2.74	.67	.51	.33	1.26	.53
IN.	.03	.04	.42	.63	1.07	3.51	3.06	.77	.57	.38	1.45	.59

CAL YR 1978 TOTAL 243496 MEAN 667 MAX 14200 MIN 14 CFSM .86 IN 11.70
WTR YR 1979 TOTAL 260517 MEAN 714 MAX 11100 MIN 14 CFSM .92 IN 12.52

a About
b Ice jam

04197020 HONEY CREEK NEAR NEW WASHINGTON, OH

LOCATION.--Lat 40°57'37", long 82°47'19", in SE 1/4, sec. 7, T.22 N., R.20 W., Crawford County, Hydrologic Unit 04100011, on left bank 250 ft (76 m) downstream from SR 103 bridge and 3.4 mi (5.5 km) east of New Washington.

DRAINAGE AREA.--17 mi^2 (44.0 km^2).

PERIOD OF RECORD.--June to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 940.00 ft (286.512 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1150 ft^3/s (32.6 m^3/s) June 21, 1979, gage height, 17.87 ft (5.447 m), from rating curve extended above 155 ft^3/s (4.39 m^3/s) on basis of step backwater analysis; minimum, 1.9 ft^3/s (0.05 m^3/s) Aug. 16, 17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period June to September, 1150 ft^3/s (32.6 m^3/s) June 21, gage height, 17.87 (5.447 m), from rating curve extended above 155 ft^3/s (4.39 m^3/s) on basis of step backwater analysis; minimum, 1.9 ft^3/s (0.05 m^3/s) Aug. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									12	6.6	2.4	6.7
2									9.3	5.4	3.9	5.5
3									7.5	4.5	2.8	5.5
4									6.6	21	2.4	7.0
5									5.7	12	2.2	5.5
6									5.4	6.7	2.1	4.3
7									5.7	5.2	2.0	3.5
8									13	4.3	3.1	3.0
9									12	5.8	5.9	2.7
10									14	13	4.3	2.5
11									7.0	7.0	4.3	2.4
12									5.8	5.1	3.3	2.3
13									4.8	4.3	2.6	2.2
14									4.1	3.8	2.3	127
15									3.5	3.3	2.1	56
16									3.0	3.0	2.0	20
17									2.8	2.7	1.9	11
18									2.5	2.6	7.3	7.7
19									2.2	2.5	9.7	6.2
20									2.3	2.5	11	5.0
21									512	2.4	16	4.6
22									81	2.3	7.4	3.9
23									35	2.3	5.3	3.5
24									19	2.3	31	3.1
25									11	2.5	53	3.0
26									9.0	3.1	17	2.5
27									7.3	2.8	14	2.7
28									6.0	2.5	26	3.6
29									5.2	2.4	51	5.5
30									5.6	2.3	18	4.6
31									---	2.3	9.0	---
TOTAL									820.3	148.5	325.3	323.1
MEAN									27.3	4.79	10.5	10.8
MAX									512	21	53	127
MIN									2.2	2.3	1.9	2.2
CFSM									1.61	.28	.62	.64
IN.									1.79	.32	.71	.71

04197100 HONEY CREEK AT MELMORE, OH

LOCATION.--Lat 41°01'20", long 83°06'35", Seneca County, Hydrologic Unit 04100011, at bridge on State Highways 67 and 100 at Melmore, 1.5 mi (2.4 km) upstream from Buckeye Creek.

DRAINAGE AREA.--149 mi² (386 km²).

PERIOD OF RECORD.--Annual maximum, water years 1961-75, February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 818 ft (250 m) from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3,850 ft³/s (109 m³/s) March 1963; Maximum gage height, 10.56 ft (3.225 m) March 1963 (ice jam); minimum discharge 0.58 ft³/s (0.016 m³/s) Sept. 11, 28, 29, 30, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*).

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 23	2330	2590	73.3	8.89	2.710	Apr. 14	1200	*3800	108	*10.39	3.167
Mar. 5	0130	2920	82.7	9.33	2.844	June 22	1400	1690	47.9	7.46	2.274

Minimum daily discharge 1.4 ft³/s (0.040 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	3.4	10	572	11	266	246	36	104	51	30	83
2	1.4	3.2	7.6	1140	10	379	188	34	91	61	52	152
3	1.5	3.0	157	741	10	990	239	32	78	46	60	77
4	3.2	2.5	508	374	9.6	2580	440	32	61	97	35	52
5	2.3	2.0	389	175	9.4	2450	1000	33	63	179	25	41
6	2.1	1.9	177	115	9.4	1370	775	32	87	136	18	36
7	3.4	2.0	84	83	9.4	775	354	28	99	67	15	27
8	2.9	1.9	178	70	9.2	520	224	25	271	42	13	22
9	2.3	1.7	441	52	9.2	415	820	24	193	179	20	18
10	2.0	1.7	334	44	9.2	507	981	161	290	153	27	15
11	2.0	1.6	144	40	9.2	437	580	331	382	99	105	13
12	1.9	1.7	64	35	9.2	233	324	120	185	64	117	12
13	3.0	1.9	38	35	9.2	164	520	77	87	57	62	11
14	4.5	2.4	26	28	9.2	171	3310	58	58	49	35	185
15	5.6	2.6	24	25	9.2	183	2450	50	42	31	21	401
16	8.7	2.6	20	22	9.2	128	1350	42	33	23	13	346
17	7.4	3.5	17	20	9.4	93	712	35	26	18	9.6	166
18	5.9	4.6	15	19	9.6	85	412	28	21	14	115	82
19	4.3	6.2	14	17	9.8	105	283	24	18	12	141	52
20	3.4	5.2	14	16	10	121	212	21	16	10	123	39
21	2.7	5.4	14	16	11	111	159	19	670	9.1	163	30
22	2.1	4.6	14	16	350	91	120	17	1540	8.2	114	24
23	1.7	4.6	14	16	1600	77	93	15	1140	8.2	72	21
24	1.5	4.8	14	16	1990	75	76	15	605	8.6	259	17
25	1.6	5.0	13	17	1000	88	59	128	295	18	179	14
26	2.3	5.6	12	17	404	78	55	990	156	22	133	13
27	2.3	5.7	11	16	303	60	58	1090	97	18	89	12
28	2.3	7.8	10	16	316	57	52	720	67	21	91	12
29	2.0	15	9.1	15	---	334	46	377	49	18	255	13
30	3.1	13	9.1	14	---	557	42	216	52	15	257	14
31	3.5	---	20	12	---	409	---	146	---	12	153	---
TOTAL	94.4	129.1	2801.8	3894	6164.4	13909	16200	4956	6876	1546.1	2801.6	2000
MEAN	3.05	4.30	90.4	126	220	449	540	160	229	49.9	90.4	66.7
MAX	8.7	15	508	1140	1990	2580	3310	1090	1540	179	259	401
MIN	1.4	1.6	7.6	12	9.2	57	42	15	16	8.2	9.6	11
CFSM	.02	.03	.61	.85	1.48	3.01	3.62	1.07	1.54	.34	.61	.45
IN.	.02	.03	.70	.97	1.54	3.47	4.04	1.24	1.72	.39	.70	.50

CAL YR 1978 TOTAL 46296.42 MEAN 127 MAX 2320 MIN .64 CFSM .85 IN 11.56
WTR YR 1979 TOTAL 61372.40 MEAN 168 MAX 3310 MIN 1.4 CFSM 1.13 IN 15.32

04197300 WOLF CREEK AT BETTSVILLE, OH

LOCATION.--Lat 41°14'58", long 83°14'08", Seneca County, Hydrologic Unit 04100011, at bridge on State Highway 590 at Bettsville, 3.5 mi (5.6 km) upstream from East Branch.

DRAINAGE AREA.--66.2 mi² (171.5 km²).

PERIOD OF RECORD.--Annual maximum, water years 1961-75. February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 690 ft (210 m) from topographic map.

REMARKS.--Records fair except those for winter periods, which are poor. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 4,280 ft³/s (121 m³/s) Feb. 27, 1962, gage height, 8.0 ft (2.438 m); minimum recorded discharge, 0.08 ft³/s (0.002 m³/s) Sept. 29, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,550 ft³/s (43.9 m³/s) Apr. 14, gage height, 6.51 ft (1.984 m), above base of 1,150 ft³/s (32.5 m³/s); minimum daily discharge, 0.11 ft³/s (0.003 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.28	1.3	323	2.5	30	106	12	42	32	3.7	26
2	.12	.38	1.0	580	2.5	60	92	10	31	17	8.2	73
3	.11	.34	9.3	160	2.4	200	84	12	24	9.3	14	70
4	.19	.31	107	139	2.3	880	142	13	19	39	7.4	41
5	.21	.29	68	22	2.3	310	448	12	16	114	4.6	24
6	.26	.26	29	14	2.3	104	231	11	13	36	5.6	16
7	.24	.24	18	11	2.3	54	122	9.8	11	15	4.1	11
8	.24	.20	46	8.0	2.3	58	92	8.9	11	8.2	2.6	11
9	.26	.16	124	6.0	2.2	62	223	8.2	9.8	26	210	7.8
10	.26	.15	64	5.0	2.1	76	193	7.8	8.2	111	74	5.6
11	.23	.13	48	4.5	2.0	60	109	7.1	7.8	52	45	4.1
12	.25	.13	20	4.0	2.1	64	103	7.8	6.2	21	26	3.3
13	.25	.14	14	4.2	2.2	40	155	7.8	5.1	12	12	3.0
14	.44	.16	11	4.2	2.2	52	1380	6.8	4.3	76	6.8	32
15	.51	.21	10	4.5	2.3	45	690	7.4	3.7	41	4.1	143
16	.62	.26	7.1	4.2	2.3	35	231	6.8	3.1	16	2.8	45
17	.72	.35	6.2	3.8	2.2	32	134	5.6	3.0	7.8	2.1	20
18	.82	.50	5.1	3.6	2.2	32	98	4.6	3.0	4.8	276	12
19	1.3	.90	4.6	3.4	2.2	50	62	4.3	2.6	3.3	596	7.8
20	1.3	1.2	4.1	3.2	2.4	58	47	4.1	2.3	2.5	191	5.3
21	1.1	1.1	3.7	3.4	8.0	46	39	3.9	7.4	1.9	240	4.1
22	.90	1.1	3.5	3.4	35	38	32	3.5	11	1.7	94	3.5
23	.70	1.0	3.2	3.4	150	35	26	3.1	7.4	1.6	51	3.0
24	.58	1.0	3.1	3.4	800	34	23	4.5	4.6	1.8	84	2.3
25	.50	.90	3.0	3.2	350	30	23	326	3.5	85	115	2.2
26	.43	.86	2.8	3.2	160	22	21	957	2.8	48	47	1.8
27	.35	.88	2.7	3.0	60	16	20	469	2.3	18	107	1.6
28	.28	.90	2.7	2.9	56	19	18	198	2.2	8.9	79	1.7
29	.20	1.2	2.7	2.8	---	276	15	124	2.6	5.3	198	1.6
30	.18	1.8	2.6	2.8	---	271	14	80	39	3.5	112	1.6
31	.22	---	5.6	2.6	---	187	---	55	---	3.0	46	---
TOTAL	13.89	17.33	633.3	1341.7	1664.3	3276	4963	2391.1	307.9	822.6	2769.0	584.3
MEAN	.45	.58	20.4	43.3	59.4	106	155	77.1	10.3	26.5	89.3	19.5
MAX	1.3	1.8	124	580	800	880	1380	957	42	114	696	143
MIN	.11	.13	1.0	2.6	2.0	16	14	3.1	2.2	1.6	2.1	1.6
CFSM	.007	.009	.31	.65	.90	1.60	2.49	1.17	.16	.40	1.35	.30
IN.	.01	.01	.36	.75	.94	1.84	2.79	1.34	.17	.46	1.56	.33

CAL YR 1978 TOTAL 22867.17 MEAN 62.6 MAX 1570 MIN .08 CFSM .95 IN 12.85
WTR YR 1979 TOTAL 18784.42 MEAN 51.5 MAX 1380 MIN .11 CFSM .78 IN 10.56

04197450 EAST BRANCH WOLF CREEK NEAR BETTSVILLE, OH

LOCATION.--Lat 41°15'40", long 83°11'04", in SW 1/4 sec. 31, T.4N., R.15E., Sandusky County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on Gilmore Road, 2.7 mi (4.3 km) northeast of Bettsville, 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--82.4 mi² (213 km²).

PERIOD OF RECORD.--February 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 660.00 ft (201.168 m) Sandusky County bench mark.

REMARKS.--Records good except those for Oct. 1 to Feb. 28, which are fair. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft³/s (110 m³/s) Mar. 16, 1978, gage height, 11.09 ft (3.380 m); minimum discharge, 0.12 ft³/s (0.003 m³/s) Aug. 4, 5, 1977, Nov. 13, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft³/s (36.8 m³/s) and maximums (*).

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	1330	1410	39.9	8.00	2.438	Apr. 14	*1530	2230	63.2	*9.18	2.798
Mar. 4	1400	1370	38.8	7.93	2.417						

Minimum daily discharge, 0.12 ft³/s (0.003 m³/s) Nov. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.42	1.3	306	4.4	36	132	15	65	57	5.3	34
2	1.3	.49	1.3	713	4.4	118	107	12	49	37	12	177
3	.64	.42	1.6	247	4.4	504	99	11	37	16	21	162
4	.56	.36	348	120	4.4	1120	139	12	30	21	15	99
5	.56	.31	160	50	4.4	666	614	12	24	155	12	54
6	.64	.31	59	35	4.4	191	332	12	22	55	9.3	32
7	.95	.27	36	22	4.4	107	172	11	49	25	6.8	21
8	1.2	.23	78	18	4.4	83	118	11	30	14	5.0	22
9	.95	.20	250	15	4.2	74	306	10	21	26	105	18
10	.84	.20	107	12	4.2	98	300	10	17	390	86	12
11	.64	.17	53	10	4.0	89	150	9.3	13	148	46	9.3
12	.60	.14	37	9.2	4.0	81	150	9.7	11	55	32	7.7
13	.56	.12	25	8.6	4.2	69	242	9.3	10	29	15	6.2
14	.49	.20	21	8.6	4.4	62	1730	8.3	9.3	110	11	48
15	.95	.17	16	8.6	4.5	77	994	9.0	7.1	48	7.4	355
16	1.6	.14	16	8.6	4.5	52	297	8.6	6.0	21	5.3	103
17	1.6	.23	14	8.0	4.4	46	170	7.7	5.5	13	4.6	43
18	1.6	.49	12	7.2	4.4	40	116	6.5	5.0	8.6	191	23
19	2.3	1.7	12	7.0	4.4	46	86	6.0	5.0	6.2	916	16
20	2.5	2.5	11	7.0	4.4	62	69	5.7	4.8	4.8	297	12
21	2.2	2.0	11	7.0	4.6	61	54	5.3	6.2	4.6	369	9.3
22	1.2	1.6	11	6.8	11	53	48	4.8	9.7	4.0	157	7.7
23	.84	1.5	11	6.8	451	48	38	4.4	21	3.5	78	6.5
24	.73	1.2	10	6.8	1060	47	32	5.3	13	4.0	63	5.5
25	.64	1.1	9.8	6.4	512	47	30	211	9.7	18	74	4.6
26	.56	1.1	9.4	6.2	146	44	28	916	6.5	40	39	4.0
27	.42	1.1	9.0	5.8	77	36	27	662	5.0	19	24	3.8
28	.31	1.1	8.7	5.6	68	36	25	261	4.2	12	22	3.3
29	.23	.95	8.4	5.0	---	291	21	165	4.2	10	59	3.1
30	.23	1.1	8.4	4.8	---	328	18	118	13	7.7	93	3.1
31	.31	---	11	4.6	---	236	---	85	---	5.3	46	---
TOTAL	29.55	21.82	1366.9	1686.6	2416.4	4848	6644	2633.9	513.2	1367.7	2826.7	1305.1
MEAN	.95	.73	44.1	54.4	86.3	156	221	85.0	17.1	44.1	91.2	43.5
MAX	2.5	2.5	348	713	1060	1120	1730	916	65	390	916	355
MIN	.23	.12	1.3	4.6	4.0	36	18	4.4	4.2	3.5	4.6	3.1
CFSM	.01	.009	.54	.66	1.05	1.89	2.68	1.03	.21	.54	1.11	.53
IN.	.01	.01	.62	.76	1.09	2.19	3.00	1.19	.23	.62	1.28	.59

CAL YR 1978 TOTAL 38824.37 MEAN 106 MAX 3790 MIN .12 CFSM 1.29 IN 17.53
WTR YR 1979 TOTAL 25659.87 MEAN 70.3 MAX 1730 MIN .12 CFSM .85 IN 11.58

04198000 SANDUSKY RIVER NEAR FREMONT, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°18'28", long 83°09'32", in sec. 17, T.4 N., R.15 E., Sandusky County, Hydrologic Unit 04100011, on left bank at downstream side of county road bridge, 2.3 mi (3.7 km) upstream from Ballville diversion dam, 2.5 mi (4.0 km) downstream from Wolf Creek, and 3.5 mi (5.6 km) southwest of Fremont.

DRAINAGE AREA.--1,251 mi² (3,240 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to March 1901 (gage height and discharge measurements only, published at "at Fremont"), October 1923 to December 1935, July 1938 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 744: 1931-32. WSP 874: 1938. WSP 1144: 1924-30. WSP 1387: 1925, 1928-29, 1931-35. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 626.3 ft (190.90 m) National Geodetic Vertical Datum, adjustment of 1912. Nov. 18, 1898, to Mar. 10, 1901, nonrecording gage at site 4 mi (6 km) downstream at different datum. Nov. 8, 1923, to Sept. 5, 1930, nonrecording gage at present site and datum.

REMARKS.--Records good except for winter periods, which are fair.

AVERAGE DISCHARGE.--53 years (1923-35, 1938-79), 959 ft³/s (27.15 m³/s), 10.41 in/yr (264 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s (1034 m³/s) Mar. 16, 1978 gage height, 13.57 ft (4.136 m); maximum gage height, 16.14 ft (4.919 m) Feb. 24, 1979, (ice jam); minimum discharge, 4.4 ft³/s (0.12 m³/s) Feb. 29, 1964 (result of freezeup); minimum gage height, 0.78 ft (0.238 m) Oct. 20, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximums(*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft³/s)	(m³/s)	(ft)	(m)			(ft³/s)	(m³/s)	(ft)	(m)
Feb. 24	---	ice	jam	*16.14	4.919	Apr. 14	2300	18600	527	8.68	2.646
Mar. 4	0530	*23600	668	10.16	3.097	May 26	2100	8240	233	5.34	1.628
Apr. 5	1300	7200	204	4.99	1.521						

Minimum daily discharge, 25 ft³/s (.710 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	63	115	1680	150	6000	1500	346	803	275	154	1500
2	38	60	106	6690	150	8540	1170	305	625	240	587	1200
3	38	57	158	4600	145	12600	1200	305	525	404	855	900
4	40	57	1470	3000	140	16000	1790	313	458	427	606	654
5	54	57	1510	1300	130	14700	6280	319	374	644	427	578
6	51	57	1170	780	125	13900	5710	313	396	442	269	434
7	51	57	706	520	120	12300	3930	300	396	333	187	345
8	57	57	578	400	110	7400	2310	281	419	234	137	237
9	60	57	1420	320	100	4140	3600	257	695	326	569	234
10	54	54	1660	260	98	3530	5690	251	634	1880	569	192
11	47	51	1290	230	96	3650	4640	908	1290	1200	466	155
12	40	51	706	200	96	2530	2950	1270	1100	855	474	161
13	38	51	474	190	98	1560	2810	766	534	578	333	129
14	54	57	339	170	100	1220	14300	542	339	842	212	263
15	74	63	275	155	100	1420	15700	458	245	450	158	2270
16	82	60	229	150	110	1250	12400	389	192	450	124	2830
17	115	67	197	145	100	963	10500	333	158	333	90	2090
18	106	106	177	140	100	778	4920	275	137	207	1500	963
19	98	110	154	140	100	842	2250	240	115	145	6250	560
20	78	129	141	140	100	1020	1590	218	102	115	4370	395
21	67	110	141	140	110	992	1190	212	229	96	4220	305
22	57	102	137	140	110	842	922	197	2640	82	2570	251
23	51	102	141	140	650	706	742	182	3860	102	1690	207
24	47	98	137	140	1800	644	625	187	2410	110	1610	182
25	40	90	129	140	5400	625	550	868	1040	333	1920	158
26	38	86	110	135	9400	587	516	6200	534	319	1190	145
27	54	86	108	140	12500	525	499	7280	346	458	949	133
28	54	90	100	140	7200	474	456	5200	251	466	766	124
29	51	94	105	145	---	1550	419	3210	207	257	1740	124
30	51	102	140	145	---	2490	392	1790	269	158	2530	133
31	54	---	223	150	---	2140	---	1160	---	119	2000	---
TOTAL	1764	2281	14346	22765	39448	125918	111471	34877	21323	12878	39512	17879
MEAN	56.9	76.0	463	734	1409	4062	3716	1125	711	415	1275	596
MAX	115	129	1660	6690	12500	16000	15700	7280	3860	1880	6250	2830
MIN	25	51	100	135	96	474	392	182	102	82	90	124
CFSM	.05	.06	.37	.59	1.13	3.25	2.97	.90	.57	.33	1.02	.49
IN.	.05	.07	.43	.68	1.17	3.74	3.31	1.04	.63	.38	1.17	.53

CAL YR 1978 TOTAL 451203 MEAN 1236 MAX 36000 MIN 16 CFSM .99 IN 13.42
WTR YR 1979 TOTAL 444461 MEAN 1218 MAX 16000 MIN 25 CFSM .97 IN 13.22

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 12...	.4	599	601	1.1	1.3	1.7	7.5	.09	--	--	40.0
NOV 07...	.5	709	649	.70	.87	1.3	5.5	.06	6.2	19000	24.3
DEC 12...	7.8	406	334	1.5	1.7	11	47	.23	9.7	--	--
JAN 15...	9.0	560	472	.95	1.2	9.1	40	.12	--	--	--
FEB 13...	6.6	707	607	.86	1.3	4.4	19	.14	4.7	--	--
MAR 13...	7.0	350	258	1.2	1.3	9.3	41	.14	5.9	1800	--
APR 10...	7.2	296	235	1.8	2.0	9.5	42	.27	--	--	--
MAY 01...	3.2	488	433	.72	.78	3.8	17	.08	5.6	32000	--
JUN 13...	6.4	291	240	1.9	1.9	10	46	.35	9.9	1700	--
JUL 03...	8.3	498	385	1.3	1.3	6.3	28	.20	--	640	--
AUG 08...	7.9	391	304	1.2	1.2	3.5	16	.23	7.9	6300	--
SEP 05...	10	379	297	1.1	1.1	3.7	16	.24	6.3	--	--

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 12...	1115	1	1	100	100	9	3	<10	1
JAN 15...	1430	1	1	100	100	4	4	10	4
APR 10...	1300	1	1	100	0	2	2	<10	<10
JUL 03...	1315	1	1	100	50	7	7	20	<10

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT 12...	1	1	6	2	220	50	92	43	80
JAN 15...	1	1	3	3	380	90	36	35	10
APR 10...	2	0	14	7	11000	210	23	2	140
JUL 03...	2	1	10	5	3400	20	55	42	100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 12...	80	<.5	<.5	0	0	0	0	30	20
JAN 15...	10	<.5	<.5	1	1	0	0	50	20
APR 10...	9	<.5	<.5	0	0	0	0	130	10
JUL 03...	10	<.5	<.5	0	0	0	0	40	20

041[illegible]00 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--Water years 1950-56, [illegible]79 (daily), 1978 (periodic)

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: Water years [illegible]950-1956, 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,[illegible] mg/L Feb. 26, 1956; minimum daily mean, 1 mg/L on many days during 1952-1956.
SEDIMENT LOADS: Maximum daily, 50,500 tons (45,800 tonnes) Apr. 14, 1979; minimum daily, less than 0.05 ton (.045 tonne) on several days during 1952 and 1954.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, mean, 1,240 mg/L Apr. 14; minimum daily mean, 6 mg/L Dec. 2, 25.
SEDIMENT LOADS: Maximum daily, 50,500 tons (45,800 tonnes) Apr. 14; minimum daily, 0.68 tons (0.62 tonnes) Oct. 1.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
APR 14...	1840	18100	1250	62500	67	80	86	92	95	97	99	100

SUSPENDED SEDIMENT DISCHARGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 12...	1115	38	17.0	14	1.4
NOV 07...	1230	60	9.5	8	1.3
DEC 12...	1300	683	2.5	54	100
JAN 15...	1430	155	.5	6	2.5
FEB 13...	1230	98	.5	4	1.1
MAR 13...	1300	1530	2.5	42	174
APR 10...	1300	5690	7.0	228	3500
MAY 01...	1400	339	15.0	55	50
JUN 13...	1345	499	23.0	250	350
JUL 03...	1315	427	22.0	107	123
AUG 08...	1545	141	26.0	75	29
SEP 05...	1315	569	24.0	90	138

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10	.68	10	1.7	9	2.8	158	762	44	18	46	745
2	11	1.1	10	1.6	6	1.7	510	9210	44	18	48	1110
3	12	1.2	9	1.4	10	4.3	400	4970	43	17	250	9290
4	12	1.3	9	1.4	197	883	295	2390	42	16	764	33000
5	12	1.7	9	1.4	123	501	150	526	42	15	395	15700
6	13	1.8	9	1.4	82	259	105	221	41	14	300	11300
7	13	1.8	9	1.4	50	95	92	115	40	13	195	6480
8	13	2.0	8	1.2	35	55	59	75	37	11	110	2200
9	14	2.3	8	1.2	80	307	52	54	35	9.5	73	815
10	14	2.0	8	1.2	117	524	56	39	35	9.3	67	448
11	14	1.8	8	1.1	83	289	53	33	35	9.1	56	552
12	14	1.5	8	1.1	57	109	50	27	35	9.1	47	321
13	14	1.4	9	1.2	47	60	50	26	35	9.3	42	177
14	14	2.0	9	1.4	38	35	48	22	37	10	37	122
15	13	2.6	10	1.7	42	31	45	19	37	10	29	111
16	13	2.9	11	1.8	35	22	44	18	38	11	27	91
17	16	5.0	12	2.2	30	16	43	17	37	10	27	70
18	15	4.3	13	3.7	26	12	42	16	37	10	28	59
19	14	3.7	15	4.5	23	9.6	42	16	37	10	28	64
20	13	2.7	16	5.6	20	7.6	42	15	37	10	30	83
21	12	2.2	13	3.9	16	6.1	42	15	38	11	31	83
22	11	1.7	10	2.8	15	5.5	42	16	38	11	30	68
23	10	1.4	8	2.2	12	4.6	42	16	92	164	30	57
24	10	1.3	8	2.1	7	2.6	42	16	198	962	28	49
25	10	1.1	15	3.6	6	2.1	42	16	446	6500	23	39
26	10	1.0	22	5.1	7	2.1	41	15	610	15500	17	27
27	10	1.5	11	2.6	40	12	42	16	710	24000	12	17
28	10	1.5	10	2.4	37	10	42	16	514	9990	37	53
29	10	1.4	10	2.5	35	9.9	43	17	---	---	277	1150
30	10	1.4	8	2.2	42	16	43	17	---	---	220	1480
31	10	1.5	---	---	50	30	44	18	---	---	193	1120
TOTAL	---	59.78	---	67.6	---	3324.9	---	18751	---	57377.3	---	36892
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	145	587	46	43	47	102	90	67	120	50	107	433
2	118	373	38	31	44	74	73	47	185	293	93	301
3	132	428	27	22	44	62	105	115	237	547	83	202
4	165	797	16	14	47	58	194	232	225	368	83	147
5	500	8550	20	17	56	57	207	360	175	202	82	128
6	385	5940	29	25	52	56	144	172	130	94	55	76
7	315	3260	33	27	45	48	115	103	105	53	52	58
8	190	1190	24	18	48	54	115	73	87	32	52	40
9	215	2090	18	12	82	154	135	119	144	288	63	40
10	300	4510	25	17	85	146	454	2350	170	261	69	36
11	250	3130	125	306	195	679	310	1000	178	224	58	25
12	195	1560	220	754	317	941	225	519	158	202	50	23
13	211	1720	125	259	265	382	125	195	102	92	55	19
14	1240	50500	83	121	175	160	195	443	91	52	73	52
15	1000	42400	87	108	120	79	155	200	77	33	180	1140
16	880	29500	84	88	88	46	130	158	68	23	201	1540
17	580	16400	66	59	66	28	108	97	65	16	157	882
18	390	5180	60	45	60	22	105	59	244	1740	113	294
19	220	1340	48	31	55	17	93	35	506	8530	95	144
20	145	522	34	20	52	14	75	23	360	4250	79	84
21	126	405	32	18	65	40	55	14	290	3300	53	44
22	105	261	35	19	895	6760	50	11	210	1460	45	30
23	80	160	27	13	780	8130	70	19	155	703	46	26
24	62	105	30	15	580	3770	78	23	160	696	37	18
25	52	79	189	529	340	955	148	133	172	892	31	13
26	44	61	263	4200	220	317	138	119	150	482	28	11
27	43	58	199	3910	162	151	125	155	117	300	26	9.3
28	44	55	146	2050	145	98	104	131	85	176	27	9.0
29	38	43	98	949	120	67	91	63	206	1010	33	11
30	39	40	67	324	147	107	90	38	202	1380	56	20
31	---	---	50	157	---	---	80	26	193	1040	---	---
TOTAL	---	181444	---	14201	---	23574	---	7100	---	28789	---	5955.3

TOTAL LOAD FOR YEAR: 427435.88 TONS.

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950 to 1966, 1978-current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
12...	1115	38	910	8.4	17.0	4.0	13.4	140	28	93	580
NOV											
07...	1230	60	990	7.8	9.5	2.0	12.6	110	15	3000	160
DEC											
12...	1300	683	610	7.6	2.5	65	10.1	76	61	4100	12000
JAN											
15...	1430	155	810	7.9	.5	8.0	12.3	84	15	330	600
FEB											
13...	1230	98	985	7.8	.5	1.0	9.7	66	62	350	63
MAR											
13...	1300	1530	500	7.4	2.5	4.0	12.0	88	27	1650	260
APR											
10...	1300	5690	440	7.5	7.0	200	10.0	82	57	1600	20000
MAY											
01...	1400	339	740	7.6	15.0	15	13.0	130	24	93	67
JUN											
13...	1345	499	460	7.8	23.0	150	7.2	83	63	3800	720
JUL											
03...	1315	427	670	7.8	22.0	54	8.5	96	36	2300	K300
AUG											
08...	1545	141	580	8.6	26.0	70	8.0	98	31	1100	400
SEP											
05...	1315	569	500	8.1	24.0	60	8.9	100	31	1200	K180

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT											
12...	410	220	96	42	32	4.6	190	--	260	51	.5
NOV											
07...	500	300	130	43	40	8.0	200	--	250	57	.6
DEC											
12...	260	180	70	20	16	4.8	77	--	110	59	.3
JAN											
15...	370	190	100	30	21	3.7	180	--	150	50	.3
FEB											
13...	420	190	110	35	39	4.2	230	--	200	74	.4
MAR											
13...	220	120	60	16	10	2.6	100	--	75	27	.2
APR											
10...	190	110	53	15	10	3.5	86	--	70	24	.2
MAY											
01...	350	180	96	27	15	2.9	170	--	140	46	.3
JUN											
13...	210	95	59	14	9.9	3.9	110	--	59	21	.3
JUL											
03...	290	120	83	21	21	4.7	170	--	100	44	.3
AUG											
08...	240	100	63	20	17	4.4	140	.7	80	27	.4
SEP											
05...	240	89	65	18	11	4.0	150	2.3	64	22	.3

04198005 SANDUSKY RIVER BELOW FREMONT, OH

LOCATION.--Lat 41°22'12", long 83°06'10", in NW 1/4 sec. 26, T.5 N., R.15 E., Sandusky County, Hydrologic Unit 04100011, on left bank 0.3 mi (0.5 km) downstream from U. S. Highway 20 bridge, 0.7 mi (1.1 km) downstream from Fremont Sewage plant, 7.0 mi (11.3 km) downstream from discharge station near Fremont, and 4.0 mi (6.4 km) upstream from Muskellunge Creek.

DRAINAGE AREA.--1,264 mi² (3,274 km²).

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1966 to current year.
PH: September 1966 to current year.
WATER TEMPERATURES: September 1966 to current year.
DISSOLVED OXYGEN: September 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station near Fremont (station 04198000).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,500 micromhos Aug. 29, 30, 1974; minimum, 156 micromhos Apr. 26, 1972.
pH: Maximum, 11.5 units June 28, 1972; minimum, 4.8 units Apr. 26, 1970.
WATER TEMPERATURES: Maximum, 32.5°C Aug. 17, 1970; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 21.0 mg/L Sept. 11, 1979; minimum, 0.0 mg/L Oct. 14, 1970, Nov. 1-5, 1974, Aug. 25, 1975.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,180 micromhos Nov. 17; minimum, 191 micromhos Aug. 19.
pH: Maximum 9.1 units July 8; minimum, 6.2 units Feb. 28.
WATER TEMPERATURES: Maximum, 29.0°C July 16; minimum, 0.0°C on many days during January.
DISSOLVED OXYGEN: Maximum, 21.0 mg/L Sept. 11; minimum, 1.9 mg/L Oct. 2.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1000	995	1080	1050	1100	1060	912	706	1020	996	387	315
2	1020	1000	1090	1070	1070	1060	678	468	1010	992	428	399
3	1040	1010	1100	1080	1070	1010	---	---	1020	986	422	312
4	1050	1040	1110	1100	1090	690	---	---	1020	1020	309	206
5	1050	1030	1120	1100	---	---	---	---	1040	1020	212	203
6	1030	785	1110	1100	---	---	---	---	1050	1040	212	206
7	1010	986	1110	1100	---	---	---	---	1080	1050	251	212
8	1010	971	1110	1100	---	---	---	---	1080	1050	338	252
9	1010	957	1120	1110	---	---	---	---	1070	1050	405	342
10	971	960	1120	1120	---	---	---	---	1060	1040	461	408
11	980	972	1130	1120	---	---	717	711	1050	1040	461	455
12	986	983	1140	1120	---	---	741	717	1060	1050	483	456
13	987	981	1160	1130	---	---	761	738	1060	1060	513	483
14	993	978	1170	1160	---	---	840	764	1070	1060	561	402
15	1010	993	1170	1150	---	---	836	779	1070	1070	584	563
16	1010	1000	1170	1170	---	---	843	809	1080	1070	608	585
17	1000	989	1180	906	---	---	852	827	1080	1080	608	597
18	1010	989	1140	530	---	---	930	890	1090	1080	615	606
19	989	980	1120	1080	---	---	930	921	1100	1090	635	617
20	990	978	1100	1090	---	---	930	921	1100	1100	663	635
21	1010	993	1130	1100	---	---	975	932	1110	1100	675	665
22	1020	1010	1120	1110	---	---	989	968	1150	1110	683	660
23	1010	1010	1120	1090	---	---	978	968	1170	648	687	655
24	1030	1010	1100	1050	---	---	994	971	606	246	692	658
25	1030	1020	1060	1040	---	---	1010	980	251	224	723	683
26	1030	1020	1070	1040	---	---	995	986	246	237	725	696
27	1040	1030	1060	1030	---	---	1030	990	261	237	719	704
28	1040	1030	1060	945	---	---	1050	1030	315	263	728	713
29	1040	1040	1050	1050	940	914	1050	998	---	---	731	678
30	1060	1040	1100	1020	938	897	996	959	---	---	665	609
31	1070	1050	---	---	911	872	992	959	---	---	606	597
MONTH	1070	785	1180	530	1100	690	1050	468	1170	224	731	203

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C). WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	612	590	743	593	738	687	497	446	587	566	468	447
2	654	612	723	581	737	713	540	497	570	495	465	444
3	701	659	713	568	726	716	605	539	566	459	528	453
4	704	666	723	589	741	717	621	594	569	455	528	504
5	666	444	705	693	753	735	677	596	477	449	507	486
6	458	434	710	675	758	744	710	636	491	476	534	492
7	476	447	758	704	788	741	655	635	489	470	564	529
8	510	477	752	618	785	755	632	596	509	492	603	567
9	573	512	729	195	779	651	614	569	552	506	615	591
10	525	449	681	296	729	680	557	495	560	512	609	545
11	468	455	713	535	674	482	506	437	564	536	567	504
12	525	471	702	533	623	504	518	434	627	447	597	552
13	543	434	635	422	587	528	546	440	417	363	603	555
14	366	287	632	540	579	480	559	524	470	419	564	513
15	303	278	630	606	500	482	530	428	527	458	606	495
16	278	257	629	582	518	504	440	423	557	524	588	411
17	363	287	587	564	548	516	531	447	596	525	489	357
18	440	374	591	567	578	542	554	533	594	479	402	354
19	500	441	663	591	600	579	603	567	482	191	455	405
20	549	497	699	563	615	596	605	569	366	252	497	469
21	581	551	705	589	657	604	600	569	324	285	519	495
22	588	566	702	587	666	455	593	527	380	327	543	513
23	617	590	726	701	456	203	556	515	431	383	546	519
24	654	615	749	719	339	254	620	480	458	431	573	543
25	665	647	747	559	335	276	650	623	518	428	591	570
26	690	662	738	515	375	335	657	548	428	395	606	575
27	708	680	612	584	405	378	636	533	477	401	615	567
28	729	708	630	505	431	410	740	549	546	480	615	594
29	743	720	645	633	452	416	710	612	539	444	603	592
30	723	716	665	545	461	432	632	569	519	428	626	573
31	---	---	687	566	---	---	626	576	519	450	---	---
MONTH	743	257	758	195	788	203	740	423	627	191	626	354
YEAR	1180	191										

STREAMS TRIBUTARY TO LAKE ERIE

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	8.2	7.9	8.7	8.5	8.6	8.4	8.3	7.7	---	---
2	---	---	8.3	8.0	8.8	8.5	8.4	8.1	8.4	7.9	---	---
3	7.8	7.6	8.5	8.1	8.7	8.4	---	---	8.2	7.8	---	---
4	7.7	7.6	8.4	8.1	8.7	8.5	---	---	8.4	8.1	---	---
5	7.8	7.6	8.3	8.1	---	---	---	---	8.4	8.3	---	---
6	8.5	7.5	8.3	8.1	---	---	---	---	8.4	8.0	---	---
7	7.8	7.5	8.1	8.0	---	---	---	---	8.2	7.8	---	---
8	7.6	7.5	8.0	7.9	---	---	---	---	8.4	8.2	---	---
9	7.9	7.5	8.0	7.9	---	---	---	---	8.4	8.3	---	---
10	8.1	7.7	8.0	7.9	---	---	---	---	8.5	8.0	---	---
11	7.9	7.8	8.0	7.8	---	---	8.2	8.1	8.4	8.2	---	---
12	8.1	7.9	7.9	7.8	---	---	8.1	7.8	8.3	8.1	---	---
13	7.9	7.8	8.0	7.6	---	---	7.8	7.5	8.4	8.1	---	---
14	8.0	7.8	8.1	7.9	---	---	8.2	7.5	8.3	8.1	---	---
15	7.9	7.8	8.0	7.9	---	---	8.2	8.2	8.1	8.0	---	---
16	7.8	7.7	7.9	7.8	---	---	8.2	7.7	8.2	7.8	---	---
17	8.0	7.7	8.6	7.8	---	---	8.1	7.8	8.3	7.9	---	---
18	8.3	8.0	8.6	7.8	---	---	8.1	7.3	8.2	8.0	---	---
19	8.4	8.2	7.9	7.8	---	---	8.2	7.8	8.1	8.0	---	---
20	8.5	8.2	7.8	7.7	---	---	7.8	7.4	8.2	7.5	---	---
21	8.4	8.3	8.0	7.8	---	---	7.7	7.4	8.1	7.4	---	---
22	8.5	8.3	8.1	8.0	---	---	8.2	7.8	7.8	7.2	---	---
23	8.4	8.2	8.2	8.1	---	---	8.0	7.2	7.3	6.6	---	---
24	8.3	8.1	8.2	8.1	---	---	7.8	7.4	7.4	6.7	---	---
25	8.2	8.1	8.1	8.0	---	---	8.0	7.6	7.6	7.4	---	---
26	8.2	8.0	8.1	8.0	---	---	7.9	7.7	7.6	7.3	---	---
27	8.1	7.9	8.0	8.0	---	---	7.8	7.5	7.6	6.4	---	---
28	8.1	7.9	8.4	8.0	---	---	7.6	7.3	7.6	6.2	---	---
29	8.0	7.9	8.5	8.2	8.3	8.0	8.3	7.7	---	---	---	---
30	8.0	7.9	8.9	8.4	8.6	8.5	8.4	8.1	---	---	8.0	7.9
31	8.2	7.9	---	---	8.6	8.5	8.2	7.8	---	---	7.9	7.9
MONTH	8.5	7.5	8.9	7.7	8.8	8.0	8.6	7.2	8.5	6.2	8.0	7.9

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.9	8.7	8.5	8.0	8.0	7.9	7.8	8.5	8.2	8.0	8.0
2	8.0	7.9	8.7	8.3	8.1	8.0	8.1	7.9	8.6	7.9	8.0	8.0
3	8.2	8.0	8.6	8.4	8.4	8.0	8.5	8.0	8.4	7.8	8.1	8.0
4	8.1	8.0	8.5	8.3	8.7	8.2	8.5	8.2	8.3	7.8	8.1	8.0
5	8.0	7.7	8.8	8.3	8.9	8.3	8.8	8.2	8.0	7.7	8.1	7.9
6	7.7	7.6	8.8	8.4	8.8	8.6	9.0	8.3	8.1	7.6	8.2	8.0
7	7.8	7.5	8.8	8.5	8.7	8.4	8.9	8.2	8.0	7.7	8.2	7.9
8	7.8	7.7	8.8	8.5	8.7	8.3	9.1	8.7	8.2	7.7	8.5	8.2
9	7.8	7.8	8.7	8.4	8.6	8.2	9.0	8.4	8.1	7.7	8.9	8.4
10	7.9	7.7	8.7	8.3	8.3	8.1	8.4	8.2	8.1	7.9	8.9	8.6
11	7.8	7.7	8.7	8.2	8.1	7.9	8.3	8.0	8.1	7.8	9.0	8.6
12	7.9	7.7	8.5	7.7	7.9	7.8	8.3	8.1	8.2	7.9	8.8	8.0
13	7.9	7.7	8.0	7.6	7.9	7.8	8.3	8.1	7.9	7.6	8.7	7.9
14	7.7	7.5	7.9	7.8	7.9	7.7	8.4	8.2	7.9	7.7	8.3	7.8
15	7.6	7.6	7.9	7.8	7.8	7.7	8.4	8.0	8.1	7.8	8.5	7.9
16	7.7	7.6	7.9	7.6	7.9	7.7	8.4	8.1	8.1	7.9	8.2	8.0
17	7.7	7.5	7.9	7.6	8.0	7.8	8.4	8.2	8.7	8.1	8.1	8.0
18	7.8	7.5	8.0	7.8	7.9	7.7	---	---	8.8	8.1	8.1	8.0
19	7.9	7.8	8.1	7.8	8.1	7.7	8.1	7.9	9.0	7.6	8.2	8.0
20	8.0	7.8	8.2	7.8	8.8	7.9	8.5	8.0	7.8	7.6	8.4	8.0
21	8.0	7.9	8.3	8.0	8.4	8.0	8.6	8.4	7.8	7.7	8.3	8.0
22	8.0	7.9	8.4	8.0	8.7	8.0	8.7	8.5	7.8	7.8	8.2	8.1
23	8.1	8.0	8.7	8.1	7.9	7.8	8.6	7.9	7.8	7.8	8.4	8.1
24	8.2	8.0	8.5	8.1	7.9	7.8	8.5	8.0	8.0	7.8	8.5	8.3
25	8.2	8.0	8.1	7.8	7.9	7.8	8.2	7.9	8.0	7.9	8.9	8.3
26	8.2	8.0	8.1	7.8	7.9	7.8	8.5	7.9	7.9	7.8	9.0	8.5
27	8.3	8.1	7.8	7.7	8.0	7.9	8.6	7.9	7.9	7.8	8.8	8.6
28	8.4	8.1	7.9	7.8	7.9	7.8	8.3	8.0	8.0	7.9	8.7	8.4
29	8.5	8.2	7.9	7.8	8.0	7.8	8.7	8.0	8.0	7.8	8.8	8.4
30	8.7	8.4	7.9	7.9	7.9	7.8	8.5	8.1	8.2	7.8	8.8	8.2
31	---	---	8.0	7.9	---	---	8.6	8.4	8.1	8.0	---	---
MONTH	8.7	7.5	8.8	7.6	8.9	7.7	9.1	7.6	8.8	7.6	9.0	7.8
YEAR	9.1	6.2										

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	19.0	12.0	11.0	3.5	2.0	2.0	.5	.5	.5	.5	.5
2	19.5	18.5	12.0	11.0	3.0	3.0	2.0	.0	.5	.5	.5	.5
3	19.0	18.0	12.5	11.0	4.0	3.0	---	---	.5	.5	.5	.5
4	18.0	17.5	12.5	11.0	7.5	3.0	---	---	.5	.5	1.5	.5
5	17.5	16.5	12.5	12.0	---	---	---	---	.5	.5	2.0	1.5
6	17.5	15.5	12.5	12.0	---	---	---	---	.5	.5	2.5	2.0
7	16.0	14.5	12.0	11.0	---	---	---	---	.5	.5	3.5	2.0
8	14.5	14.0	11.5	11.0	---	---	---	---	.5	.5	4.5	3.0
9	14.0	13.5	11.0	10.0	---	---	---	---	.5	.5	4.0	4.0
10	14.5	13.0	11.0	10.0	---	---	---	---	.5	.5	4.0	3.0
11	14.0	13.5	11.0	10.0	---	---	.5	.0	.5	.5	3.0	1.5
12	15.0	13.5	10.5	9.5	---	---	.5	.5	.5	.5	2.5	1.5
13	14.5	14.0	10.0	9.5	---	---	.5	.5	.5	.5	4.0	1.5
14	14.5	14.0	10.5	9.5	---	---	.5	.5	.5	.5	10.0	3.0
15	14.5	13.5	9.5	9.0	---	---	.5	.0	.5	.5	3.0	1.5
16	13.5	13.0	9.5	9.0	---	---	.5	.0	.5	.5	3.5	1.0
17	13.0	12.5	10.0	9.0	---	---	.5	.0	.5	.5	5.0	2.5
18	12.5	11.5	11.0	8.0	---	---	.5	.0	.5	.5	6.5	4.5
19	12.0	11.5	8.0	8.0	---	---	.5	.5	.5	.5	7.0	6.0
20	13.0	11.0	8.0	7.0	---	---	.5	.5	.5	.5	7.5	6.5
21	13.0	11.5	7.0	6.0	---	---	.5	.5	.5	.5	9.5	7.5
22	13.5	12.0	6.0	5.0	---	---	.5	.0	.5	.5	10.0	9.0
23	13.5	12.5	6.0	5.5	---	---	.5	.5	.5	.5	11.0	10.0
24	13.0	12.0	5.5	5.5	---	---	.5	.5	.5	.5	11.5	10.0
25	12.5	11.5	5.5	5.0	---	---	.5	.5	.5	.5	9.5	8.0
26	12.5	12.0	5.5	5.0	---	---	1.0	.5	.5	.5	8.0	6.0
27	12.0	11.5	5.0	4.0	---	---	.5	.5	.5	.5	6.5	4.5
28	12.0	11.0	5.5	3.5	---	---	.5	.5	.5	.5	7.0	5.0
29	12.0	11.0	3.5	3.0	1.0	.5	.5	.5	---	---	8.5	6.5
30	12.0	10.5	6.0	3.0	1.0	.5	.5	.5	---	---	9.5	8.0
31	12.0	10.5	---	---	1.0	.5	.5	.5	---	---	10.0	9.5
MONTH	19.5	10.5	12.5	3.0	7.5	.5	2.0	.0	.5	.5	11.5	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	8.5	15.0	12.5	19.0	16.0	21.5	20.0	27.0	26.0	24.0	22.0
2	9.5	8.0	15.0	13.5	21.0	19.0	20.0	19.5	26.5	24.5	24.0	22.5
3	10.0	8.5	15.5	14.5	22.5	19.5	22.5	19.5	26.0	24.5	24.5	22.0
4	9.5	7.0	15.5	14.5	23.5	21.0	22.5	21.0	26.0	24.5	24.5	23.5
5	7.0	6.0	15.5	13.5	23.0	22.0	22.5	19.5	26.5	25.5	25.5	23.0
6	5.5	4.5	16.0	13.5	23.5	22.5	24.0	20.5	27.0	25.5	25.5	23.5
7	5.5	4.5	18.5	15.0	24.0	23.0	23.5	21.5	25.5	26.0	25.5	23.5
8	5.5	5.0	21.0	17.0	24.0	22.0	25.0	23.0	27.0	26.0	23.5	22.0
9	5.0	4.5	22.5	19.5	25.5	23.5	25.0	23.0	27.5	26.0	22.0	21.0
10	5.5	4.5	24.0	21.5	26.0	24.5	23.5	22.0	26.0	25.0	22.0	20.5
11	5.5	5.0	25.0	23.0	24.0	22.0	24.5	21.5	25.0	23.5	22.5	21.0
12	8.5	6.0	24.5	21.0	23.5	21.0	25.0	23.0	23.5	22.0	22.0	21.5
13	9.5	9.0	21.0	19.0	23.0	21.0	25.5	24.5	22.5	22.0	24.0	21.5
14	11.0	8.5	20.0	19.0	23.0	21.0	26.5	24.5	23.5	21.5	23.0	21.5
15	9.0	8.5	20.0	19.0	23.5	21.5	28.0	26.0	22.0	21.0	22.0	19.0
16	9.5	9.0	21.0	19.0	25.5	23.0	29.0	26.0	21.5	20.5	19.0	18.0
17	9.5	8.5	21.0	18.5	26.0	24.0	28.0	26.5	22.5	21.0	19.5	17.5
18	11.0	9.5	21.0	19.0	24.5	23.5	27.0	26.0	21.5	19.5	20.0	17.5
19	12.0	10.0	22.0	19.5	25.0	23.5	26.0	25.0	19.5	17.5	20.0	18.5
20	13.0	11.5	22.0	20.5	25.0	23.5	26.5	25.0	20.0	19.5	19.0	17.5
21	13.5	12.5	23.0	21.0	25.0	23.0	27.5	25.5	20.5	19.5	18.5	18.0
22	15.0	13.0	22.0	21.0	25.0	23.0	27.0	26.0	21.0	20.0	18.0	17.5
23	16.0	14.0	21.5	20.5	23.0	21.5	27.5	26.0	21.5	20.5	17.5	16.5
24	17.5	15.0	21.0	19.0	21.5	20.0	27.5	25.5	22.5	21.0	17.5	16.5
25	18.0	17.0	19.0	13.5	22.5	19.5	26.0	25.0	22.0	20.5	18.0	16.5
26	18.0	15.5	13.5	10.5	23.0	20.5	26.0	25.0	21.5	20.5	19.0	17.0
27	15.5	14.0	12.0	10.5	23.5	21.0	27.0	25.0	22.0	20.5	19.0	18.0
28	14.0	13.0	13.5	12.0	24.0	22.0	26.5	25.0	21.5	20.5	20.0	18.5
29	13.0	12.0	15.0	12.5	24.5	23.0	27.5	25.0	22.5	21.0	19.5	18.5
30	13.0	12.5	15.0	14.0	23.0	22.0	27.0	26.0	23.0	21.0	20.5	18.5
31	---	---	16.0	14.5	---	---	27.0	26.0	24.0	22.0	---	---
MONTH	18.0	4.5	25.0	10.5	26.0	16.0	29.0	19.5	27.5	17.5	25.5	16.5
YEAR	29.0	.0										

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.9	2.3	8.4	5.8	17.7	13.4	8.8	7.9	11.5	11.1	11.9	11.7
2	6.4	1.9	9.9	7.0	18.3	16.1	9.4	8.7	11.5	11.3	12.0	11.9
3	6.0	2.8	9.3	8.1	16.9	14.6	---	---	11.6	11.3	12.2	12.0
4	4.5	3.0	9.4	7.3	14.3	10.8	---	---	11.7	11.3	12.2	11.9
5	5.5	3.2	9.0	7.1	---	---	---	---	11.5	11.2	12.3	12.1
6	9.3	2.7	9.3	6.6	---	---	---	---	11.3	11.1	12.2	12.1
7	6.6	2.6	6.9	6.0	---	---	---	---	11.4	11.1	12.2	11.9
8	4.7	2.8	6.5	5.6	---	---	---	---	11.6	11.3	12.0	11.6
9	7.8	3.2	6.9	6.1	---	---	---	---	11.6	11.3	11.6	11.4
10	8.2	4.8	6.5	4.9	---	---	---	---	11.6	11.4	11.6	11.3
11	6.7	5.2	5.9	4.5	---	---	11.8	11.7	11.7	11.4	12.0	11.6
12	7.4	5.6	5.1	4.1	---	---	11.7	11.4	11.5	11.3	12.1	11.7
13	6.5	5.1	6.6	4.2	---	---	11.5	10.9	11.6	11.3	11.8	11.3
14	6.9	5.4	8.4	5.9	---	---	11.0	9.7	11.6	11.2	11.3	9.6
15	6.8	5.4	7.0	6.0	---	---	11.4	10.8	11.3	11.0	12.1	11.3
16	6.0	5.3	6.6	5.7	---	---	11.5	11.1	11.1	10.9	12.2	11.8
17	7.3	4.8	10.4	4.4	---	---	11.4	10.7	11.0	10.8	12.0	11.6
18	9.4	7.1	10.4	6.0	---	---	11.0	10.8	10.9	10.7	11.5	11.1
19	10.0	8.1	5.9	5.1	---	---	11.5	10.9	11.0	10.7	11.1	10.4
20	10.7	8.6	5.6	4.1	---	---	11.4	11.0	11.2	11.0	10.8	10.3
21	10.1	8.2	8.9	5.1	---	---	11.2	10.5	11.1	10.4	10.5	10.1
22	10.3	8.3	9.7	8.7	---	---	11.1	9.9	10.8	10.3	10.1	9.6
23	9.4	7.9	10.7	9.6	---	---	11.2	10.9	11.2	9.1	9.9	8.9
24	8.4	7.0	11.0	10.2	---	---	11.3	11.0	12.4	11.4	9.4	8.1
25	7.8	6.7	10.4	9.5	---	---	11.0	10.3	12.4	12.1	10.4	9.3
26	7.6	6.3	10.0	8.8	---	---	11.2	10.7	12.1	11.9	11.2	10.0
27	7.4	5.3	10.5	9.1	---	---	11.2	10.8	12.0	11.7	12.0	10.8
28	7.2	6.1	11.9	10.3	---	---	11.0	10.6	11.8	11.5	12.2	11.0
29	6.8	5.8	12.8	12.2	8.6	7.9	11.0	10.6	---	---	11.6	10.3
30	7.6	5.8	14.9	11.3	8.8	8.4	11.5	10.9	---	---	10.3	10.0
31	8.1	6.1	---	---	8.9	8.3	11.4	11.0	---	---	10.0	9.7
MONTH	10.7	1.9	14.9	4.1	18.3	7.9	11.8	7.9	12.4	9.1	12.3	8.1

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	9.7	18.9	9.8	7.6	6.9	6.2	5.3	10.3	7.5	8.1	7.4
2	10.0	9.7	18.1	14.7	7.3	6.2	6.7	5.9	10.0	5.4	7.7	7.3
3	10.4	9.5	14.7	10.6	7.0	6.1	9.3	6.3	10.8	6.7	7.8	7.6
4	10.1	9.5	10.8	8.9	9.0	6.3	9.3	7.4	9.7	6.5	7.9	7.3
5	11.0	10.2	12.6	8.9	11.1	6.4	10.5	7.5	8.0	6.2	8.0	7.0
6	11.1	10.6	12.0	9.8	10.4	8.4	12.5	7.5	8.1	5.4	8.2	6.8
7	11.2	10.8	11.7	9.4	12.3	7.9	12.3	7.0	7.8	6.0	7.6	5.4
8	10.8	10.5	11.5	8.8	10.8	6.7	14.4	9.5	8.5	5.7	9.0	7.4
9	10.9	10.5	11.6	7.6	9.7	6.3	13.3	6.9	7.3	4.9	14.7	8.8
10	11.1	10.7	12.4	7.6	7.5	6.6	7.8	6.5	7.3	6.3	19.9	12.4
11	11.4	10.6	10.6	7.1	7.6	6.1	7.8	7.3	7.4	6.3	21.0	15.1
12	10.9	10.1	8.0	5.4	7.6	7.1	7.5	6.8	9.0	7.1	20.5	10.0
13	10.1	9.6	7.5	5.5	7.2	6.3	7.2	6.5	7.8	6.8	16.8	9.5
14	10.3	9.9	7.3	6.3	7.2	5.7	7.4	6.6	7.8	6.5	9.8	5.8
15	10.5	10.3	6.7	5.4	6.3	5.3	7.2	5.8	8.3	6.2	10.6	5.4
16	10.7	10.5	6.1	4.5	6.1	4.6	7.0	5.5	8.3	7.1	9.5	8.6
17	11.3	10.4	6.2	5.0	5.6	4.5	7.3	5.7	13.0	8.4	9.5	8.7
18	10.6	10.0	6.1	5.3	4.9	4.1	9.7	6.3	12.0	7.4	8.9	8.4
19	10.0	9.6	6.7	5.1	6.8	4.5	9.2	7.3	9.2	8.8	9.3	7.4
20	9.7	9.0	6.7	4.3	10.7	5.7	11.4	7.3	8.9	8.8	9.3	7.8
21	9.1	8.6	6.8	5.0	8.2	5.8	11.5	9.6	8.9	8.6	9.0	7.2
22	8.9	8.3	7.6	5.4	8.0	5.8	17.0	10.9	8.7	8.3	8.7	7.6
23	8.9	8.2	10.5	6.1	8.1	7.3	14.7	9.1	8.3	8.1	10.3	8.0
24	8.6	7.9	8.9	5.8	8.3	8.0	13.1	8.2	8.2	7.8	10.8	9.2
25	8.5	7.7	8.2	5.5	8.2	7.7	7.8	5.4	8.4	7.9	15.0	8.6
26	8.2	7.5	10.1	8.5	7.8	7.3	11.7	4.4	8.1	7.8	18.3	9.4
27	9.1	8.3	9.9	9.5	7.6	6.8	12.2	6.1	8.0	7.5	18.1	14.0
28	10.6	8.6	9.6	9.2	6.9	6.1	9.9	6.5	7.9	7.7	16.2	12.3
29	11.4	9.3	9.5	8.7	6.8	5.6	15.9	6.7	8.1	7.2	15.4	10.5
30	12.2	10.9	8.7	7.9	6.0	4.9	17.6	12.7	8.7	6.8	15.9	9.0
31	---	---	8.0	7.5	---	---	12.1	8.8	8.3	8.0	---	---
MONTH	12.2	7.5	18.9	4.3	12.3	4.1	17.6	4.4	13.0	4.9	21.0	5.4
YEAR	21.0	1.9										

04199000 HURON RIVER AT MILAN, OH

LOCATION.--Lat 41°18'04", long 82°36'36", in SW 1/4 sec. 4, T.5 N., R.22 W., Erie County, Hydrologic Unit 04100012, on right bank on upstream side of bridge on U.S. Highway 250, 0.2 mi (0.3 km) northwest of Milan and 2.0 mi (3.2 km) downstream from confluence of East and West Branches.

DRAINAGE AREA.--371 mi² (961 km²).

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 573.26 ft (174.730 m) National Geodetic Vertical Datum of 1929. July 29, 1953 to Oct. 5, 1979, water-stage recorder at site of former highway bridge 500 ft (152 m) downstream at same datum. July 29, 1953, nonrecording gage at site of former highway 450 ft (137 m) downstream at same datum.

REMARKS.--Records poor prior to Mar. 1, fair thereafter. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--29 years, 301 ft³/s (8.524 m³/s), 11.02 in/yr (280 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s (1,400 m³/s) July 5, 1969, gage height, 31.1 ft (9.48 m) (from floodmark), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 2.2 ft³/s (0.062 m³/s) Sept. 10, 15, 19, 20, 21, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,700 ft³/s (133 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 4	0700	6880	195	17.35	5.288	May. 26	1700	5050	143	15.51	4.727
Apr. 14	0700	*9600	272	*19.35	5.898						

Minimum daily discharge, 17 ft³/s (0.481 m³/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	28	30	1300	80	1500	526	182	288	237	60	73
2	20	30	50	2360	76	2510	481	165	333	243	207	56
3	25	26	210	1360	72	5000	549	167	243	160	224	52
4	32	24	190	600	68	6600	913	180	187	424	104	53
5	38	23	150	300	66	3570	2430	180	142	848	69	57
6	26	23	130	200	64	1330	1190	165	110	314	57	50
7	22	23	100	150	60	840	606	153	147	185	44	52
8	21	24	217	140	60	736	481	182	160	123	40	37
9	20	23	692	120	58	612	2400	191	195	191	38	32
10	20	22	297	110	58	793	1630	199	239	261	37	29
11	21	21	147	110	58	587	754	394	243	197	38	29
12	32	21	121	100	58	367	627	217	138	121	44	27
13	40	22	80	96	58	331	1570	172	89	94	45	27
14	42	24	54	92	58	374	8100	151	78	104	39	241
15	38	26	48	90	58	377	3090	153	63	96	33	960
16	33	28	48	88	58	269	1180	136	53	71	29	349
17	28	30	47	88	58	243	775	115	45	56	29	191
18	24	32	42	86	60	233	584	98	42	45	49	119
19	20	32	39	86	68	275	455	87	40	41	42	82
20	18	32	40	84	82	290	379	80	40	38	44	50
21	17	32	40	86	120	273	333	73	1150	36	58	44
22	18	30	34	88	300	251	299	66	1300	42	84	39
23	19	29	34	90	200	230	275	60	387	163	57	35
24	21	28	33	100	1700	241	253	65	219	91	45	33
25	22	26	32	110	4000	257	247	584	147	142	102	31
26	26	25	29	110	2800	233	241	3890	100	98	180	29
27	24	25	28	100	2200	189	237	2440	76	98	94	27
28	21	27	28	98	1800	226	224	913	68	80	94	37
29	20	28	30	94	---	1240	209	557	80	76	241	41
30	22	30	32	88	---	1400	195	389	158	61	269	50
31	24	---	44	84	---	844	---	310	---	47	134	---
TOTAL	772	794	3096	8508	14398	32221	31243	12714	6560	4783	2630	2942
MEAN	24.9	26.5	99.9	278	514	1039	1041	410	219	154	84.8	98.1
MAX	42	32	692	2360	4000	6600	8100	3890	1300	848	269	960
MIN	17	21	28	84	58	189	195	60	40	36	29	27
CFSM	.07	.07	.27	.75	1.39	2.80	2.81	1.11	.59	.42	.23	.26
IN.	.08	.08	.31	.86	1.44	3.23	3.13	1.27	.66	.48	.26	.29

CAL YR 1978 TOTAL 127580.0 MEAN 350 MAX 7270 MIN 9.0 CFSM .94 IN 12.79
WTR YR 1979 TOTAL 120761.0 MEAN 331 MAX 8100 MIN 17 CFSM .89 IN 12.11

Note: No Gage-Height Record Oct. 1 to Dec. 7.

04199000 HURON RIVER AT MILAN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1979.
pH: October 1978 to September 1979.
WATER TEMPERATURES: October 1978 to September 1979.
DISSOLVED OXYGEN: October 1978 to September 1979.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to October 1978, records published as 04199100, Huron River below Milan, Ohio.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,410 micromhos Jan. 14, 1979; minimum, 186 micromhos Mar. 3, 1979.
pH: Maximum, 8.7 units July 14-16, 29, 31, 1979; minimum, 6.9 units Apr. 14, 1979.
WATER Temperatures: Maximum, 31.5°C July 16, 31, 1979; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 15.1 mg/L Dec. 23, 1978; minimum, 3.9 mg/L Sept. 14, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,410 micromhos Jan. 14; minimum, 186, micromhos Mar. 3.
pH: Maximum, 8.7 units July 14-16, 29, 31; minimum, 6.9 units Apr. 14.
WATER TEMPERATURES: Maximum, 31.5°C July 16, 31; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 15.1 mg/L Dec. 23; minimum, 3.9 mg/L Sept. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
SEP												
15...	1400	905	435	7.8	--	--	47	67	17	10	284	.39
15...	1600	814	426	7.8	--	--	44	66	17	9.3	280	.38
15...	1800	733	423	7.8	--	--	52	63	16	10	264	.36
15...	2000	659	427	7.9	--	--	43	69	17	13	268	.36
15...	2200	593	432	7.9	--	--	48	67	17	10	272	.37
15...	2359	540	435	7.9	--	--	58	67	17	10	271	.37
16...	0200	489	441	7.9	--	--	47	67	17	11	280	.38
16...	0400	450	445	7.9	--	--	36	70	18	11	285	.39
16...	0600	414	448	7.8	--	--	41	71	18	10	288	.39
16...	0800	384	450	7.9	--	--	48	71	18	11	285	.39
16...	1000	352	456	7.9	--	--	42	69	18	10	284	.39
16...	1200	330	451	8.0	--	--	32	74	19	10	289	.39
20...	1600	53	694	8.3	20.0	10.9	10	116	38	9.2	425	.58

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP												
15...	694	342	3.1	.00	2.0	1.9	5.1	23	.44	.13	.40	10
15...	614	195	3.1	.06	1.7	1.7	4.9	22	.38	.13	.40	10
15...	522	178	3.1	.05	1.8	1.8	4.9	22	.37	.12	.37	9.9
15...	477	158	3.2	.18	1.6	1.7	5.1	22	.36	.14	.43	10
15...	435	135	3.2	.01	1.9	1.8	5.1	23	.34	.12	.37	9.8
15...	394	130	3.2	.01	1.6	1.5	4.9	22	.32	.13	.40	9.9
16...	369	107	3.3	.04	1.7	1.7	5.1	22	.32	.14	.43	11
16...	346	103	3.4	.05	1.3	1.4	4.8	21	.31	.14	.43	10
16...	322	107	3.4	.10	1.5	1.5	5.0	22	.31	.14	.43	10
16...	295	115	3.2	.04	1.7	1.7	5.0	22	.29	.12	.37	10
16...	270	88	3.2	.19	1.2	1.3	4.6	20	.28	.14	.43	9.8
16...	257	78	3.3	.10	1.4	1.4	4.8	21	.27	.13	.40	10
20...	50.8	87	2.5	.14	.88	1.0	3.6	16	.56	.55	1.7	8.0

04199000 HURON RIVER AT MILAN, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	879	864	869	839	930	900	688	420			654	290
2	891	867	905	872	954	916	504	408			630	378
3	903	876	924	882	952	718	610	514			360	185
4	906	843	917	878	750	598	648	621			249	186
5	882	768	917	872	694	634	696	654			360	258
6	768	747	900	870	742	694	714	664			459	365
7	792	762	899	870	768	744	750	684			738	447
8	843	789	878	854	792	766	826	756			552	510
9	852	819	887	860	766	646	816	798			582	549
10	846	822	905	873	774	672	846	820			585	564
11	846	604	897	872	792	774	892	850			609	570
12	857	780	887	866	786	774	898	874			666	612
13	854	668	948	882	804	768	892	858			765	648
14	708	585	921	873	816	790	1410	868			822	678
15	732	624	885	858	838	786	910	856			738	669
16	804	693	912	881	798	780	854	840			693	663
17	756	716	920	900	808	794	888	838			696	675
18	773	743	834	816	802	784	978	905			714	693
19	788	765	884	846	820	798	912	886			723	705
20	813	684	875	851	834	808	910	858			729	717
21	786	752	870	851	874	832	936	846			732	714
22	795	752	878	854	894	838	972	900			735	714
23	806	768	872	783	894	850	954	916			741	723
24	824	771	830	789	912	862	1340	904			750	732
25	839	789	860	833	910	846	954	934			762	747
26	867	767	863	845	948	894	---	---			786	762
27	792	759	950	842	984	918	---	---			789	762
28	834	798	864	848	1010	948	---	---			780	651
29	846	818	870	836	1040	952	---	---			654	528
30	849	818	928	910	1020	922	---	---			534	513
31	852	828	---	---	942	696	---	---			588	537
MONTH	906	585	950	783	1040	598	1410	408			822	185

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	630	591	765	702	717	699	759	693	747	585	645	594
2	651	630	777	702	735	699	783	639	678	567	660	612
3	651	636	759	711	702	654	639	615	738	507	678	605
4	645	426	789	726	702	654	656	420	552	513	744	639
5	480	399	822	732	714	663	519	432	573	519	750	678
6	543	480	792	735	717	678	534	486	591	537	885	621
7	597	546	798	720	759	690	588	543	627	594	765	609
8	627	597	768	726	720	675	624	594	678	597	840	765
9	630	417	774	726	726	663	735	579	693	645	843	790
10	504	417	783	696	759	684	639	612	780	660	825	758
11	573	510	771	501	768	555	627	609	750	675	855	804
12	594	576	651	549	645	573	675	536	753	699	891	807
13	609	279	675	648	723	654	699	642	807	747	885	828
14	294	237	708	678	792	666	656	591	834	792	900	507
15	438	306	735	684	744	705	645	582	852	807	660	425
16	489	435	750	699	747	714	642	588	912	819	504	447
17	543	495	747	705	---	---	678	515	897	828	558	507
18	579	546	750	723	---	---	708	663	876	624	597	564
19	618	585	750	732	---	---	741	693	783	720	672	603
20	645	524	783	738	---	---	755	699	801	738	729	657
21	672	648	822	759	---	---	755	693	810	741	762	714
22	687	669	861	780	---	---	747	630	822	774	798	744
23	702	681	855	801	---	---	738	519	828	735	780	720
24	714	693	903	810	---	---	558	522	744	705	807	732
25	717	684	852	675	---	---	755	555	762	675	831	744
26	714	693	666	519	---	---	771	582	756	591	960	771
27	729	711	591	525	---	---	579	525	600	525	882	774
28	747	729	639	594	---	---	651	564	606	555	870	681
29	759	720	669	636	813	675	675	627	642	561	786	720
30	753	714	696	669	726	693	675	633	666	543	810	774
31	---	---	708	699	---	---	650	633	588	555	---	---
MONTH	759	237	903	501	813	555	783	420	912	507	960	425
YEAR	1410	186										

STREAMS TRIBUTARY TO LAKE ERIE

04199000 HURON RIVER AT MILAN, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.3	9.8	8.1	7.8	8.2	8.1	7.8	7.3	7.6	7.6	7.6	7.4
2	8.2	9.0	8.1	7.9	8.2	8.1	7.5	7.4	7.6	7.6	7.6	7.4
3	8.1	9.0	8.4	8.1	8.2	7.8	7.6	7.5	7.6	7.6	7.4	7.1
4	7.9	7.8	8.4	8.0	7.8	7.7	7.6	7.5	7.6	7.6	7.2	7.1
5	7.9	7.0	8.4	8.0	7.8	7.8	7.6	7.5	7.6	7.6	7.2	7.2
6	7.9	7.0	8.2	7.9	7.8	7.8	7.6	7.5	7.6	7.5	7.4	7.3
7	7.9	6.5	8.0	7.8	7.9	7.8	7.6	7.5	7.5	7.5	7.8	7.4
8	8.0	6.4	8.1	7.8	8.0	10.9	7.5	7.5	7.6	7.5	7.6	7.4
9	8.1	5.6	8.3	7.9	8.0	7.9	7.5	7.5	7.6	7.5	7.6	7.5
10	8.1	5.9	8.4	8.0	8.0	8.0	7.5	7.4	7.6	7.3	7.6	7.5
11	8.1	7.9	8.4	8.0	8.0	8.0	7.5	7.4	7.5	7.3	7.6	7.5
12	8.2	7.8	8.1	7.9	8.1	8.0	7.4	7.4	7.4	7.3	7.7	7.5
13	8.2	7.7	8.2	7.9	8.1	11.6	7.4	7.4	7.4	7.2	7.7	7.6
14	8.0	7.6	8.3	7.9	7.9	7.8	7.5	7.4	7.3	7.2	7.7	7.5
15	8.1	7.8	8.2	7.9	7.9	11.4	7.5	7.5	7.5	7.3	7.8	7.8
16	8.1	7.9	8.2	7.9	7.9	7.7	7.5	7.4	7.5	7.4	7.9	7.7
17	8.1	8.0	8.2	8.0	8.0	7.8	7.4	7.4	7.5	7.5	7.8	7.5
18	8.2	8.0	8.1	7.9	8.0	7.8	7.4	7.3	7.5	7.4	7.7	7.7
19	8.5	8.0	8.2	8.0	8.1	7.9	7.6	7.3	7.4	7.4	7.7	7.7
20	8.4	8.1	8.1	7.9	8.0	7.8	7.4	7.3	7.5	7.3	7.8	7.7
21	8.5	8.1	8.1	8.0	7.9	7.7	7.5	7.3	7.4	7.4	7.7	7.7
22	8.5	7.9	8.2	8.0	7.9	7.8	7.4	7.3	7.6	7.4	7.8	7.7
23	8.0	7.8	8.3	8.0	7.9	7.7	7.5	7.4	7.6	7.3	7.8	7.6
24	8.1	7.7	8.2	8.0	7.9	7.8	8.0	7.4	7.3	7.2	7.8	7.5
25	8.2	7.8	8.3	8.0	7.9	7.8	7.5	7.5	7.4	7.3	8.0	7.7
26	7.9	7.7	8.3	8.1	7.9	7.7	7.7	7.5	7.4	7.3	8.1	7.8
27	8.0	7.7	8.2	8.0	7.9	7.8	7.7	7.5	7.5	7.3	8.1	7.9
28	8.2	7.8	8.3	8.0	8.1	7.8	7.6	7.6	7.5	7.4	8.1	7.5
29	8.2	7.9	8.2	8.1	8.2	7.9	7.6	7.6	---	---	7.6	7.4
30	8.1	7.9	8.2	8.0	8.0	7.8	7.6	7.6	---	---	7.5	7.4
31	8.1	7.9	---	---	8.0	7.8	7.6	7.6	---	---	7.5	7.4
MONTH	8.5	7.0	8.4	7.8	8.2	7.7	8.0	7.3	7.6	7.2	8.1	7.1

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.6	7.5	8.3	7.8	7.9	7.7	8.1	8.0	8.5	7.7	8.3	8.0
2	7.8	7.6	8.2	7.8	7.9	7.7	8.2	8.1	8.5	7.9	8.2	7.9
3	7.8	7.6	8.1	7.5	8.1	7.6	8.2	8.0	8.3	8.1	8.3	7.9
4	7.6	7.3	8.3	7.6	8.2	7.7	8.1	7.7	8.3	8.0	8.4	8.0
5	7.4	7.2	8.2	7.8	8.4	7.7	7.9	7.8	8.3	8.0	8.4	8.1
6	7.6	7.4	8.2	7.7	8.1	7.5	8.0	7.8	8.4	7.9	8.4	7.8
7	7.7	7.6	8.2	7.6	8.3	7.8	8.1	7.9	8.6	8.1	8.4	8.0
8	7.7	7.6	8.1	7.5	8.2	7.6	8.2	7.9	8.5	7.9	8.3	8.0
9	7.7	7.4	7.8	7.3	8.3	7.6	8.1	7.9	8.5	8.0	8.4	8.0
10	7.6	7.4	7.6	7.3	8.3	7.8	8.1	7.9	8.4	7.9	8.5	8.0
11	7.7	7.6	7.5	7.3	7.9	7.8	8.1	8.0	8.3	7.9	8.4	7.9
12	7.7	7.6	7.7	7.4	8.1	7.8	8.4	8.0	8.5	8.1	8.4	7.8
13	7.6	7.1	7.9	7.6	8.2	7.9	8.5	8.0	8.5	8.2	8.3	7.7
14	7.1	6.9	8.0	7.7	8.3	7.8	8.7	8.0	8.4	8.1	8.1	7.5
15	7.3	7.1	8.1	7.6	8.4	7.7	8.7	7.9	8.5	8.0	8.1	7.9
16	7.4	7.3	8.2	7.8	8.4	7.7	8.7	7.8	8.5	8.0	8.1	7.9
17	7.5	7.4	8.2	7.8	---	---	8.5	7.7	8.3	7.9	8.3	8.1
18	7.5	7.5	8.1	7.7	---	---	8.3	7.7	8.3	7.8	8.4	8.1
19	7.5	7.5	8.1	7.6	---	---	8.2	7.8	8.4	7.9	8.5	8.2
20	7.6	7.5	8.1	7.5	---	---	8.3	7.8	8.4	8.0	8.5	8.2
21	7.6	7.5	8.0	7.6	---	---	8.5	7.8	8.4	8.1	8.4	8.2
22	7.7	7.5	8.0	7.6	---	---	8.4	7.8	8.5	8.2	8.6	8.1
23	7.8	7.6	8.0	7.5	---	---	8.1	7.8	8.6	8.0	8.6	8.2
24	7.8	7.6	7.6	7.4	---	---	8.2	7.8	8.4	7.9	8.5	8.1
25	8.0	7.5	7.8	7.5	---	---	8.4	8.0	8.5	8.0	8.5	8.0
26	8.1	7.6	7.5	7.2	---	---	8.4	8.1	8.5	8.2	8.5	7.9
27	8.2	7.7	7.5	7.3	---	---	8.4	8.0	8.4	8.0	8.5	7.8
28	8.2	7.8	7.6	7.5	---	---	8.5	8.0	8.4	8.0	8.1	7.8
29	8.3	7.8	7.6	7.6	8.2	7.7	8.7	8.2	8.4	8.0	8.4	7.9
30	8.3	7.8	7.7	7.6	8.2	7.9	8.6	8.1	8.3	8.2	8.5	8.1
31	---	---	7.8	7.7	---	---	8.7	8.0	8.3	8.0	---	---
MONTH	8.3	5.9	8.3	7.2	8.4	7.5	8.7	7.7	8.6	7.7	8.6	7.6
YEAR	8.7	5.9										

04199000 HURON RIVER AT MILAN, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	19.5	10.5	7.0	1.5	.5	3.0	1.0	.5	.5	1.0	.0
2	19.5	19.0	9.0	5.5	1.5	1.0	2.5	.0	.5	.5	1.0	.0
3	19.0	18.5	11.0	6.5	4.5	1.0	.0	.0	.5	.0	.5	.0
4	18.5	17.5	12.0	7.5	5.5	2.5	.0	.0	.5	.5	4.0	.5
5	17.5	14.5	12.5	8.5	2.5	1.5	.0	.0	.5	.5	4.0	3.0
6	14.5	13.5	11.5	10.0	2.0	1.5	.0	.0	.5	.5	3.5	2.5
7	13.5	12.5	10.0	7.0	3.0	2.0	.0	.0	.5	.5	4.5	1.5
8	12.5	11.5	7.5	4.5	4.5	3.5	.0	.0	.5	.5	6.0	3.0
9	12.5	11.0	8.0	4.5	4.0	1.5	.0	.0	.5	.0	4.5	3.5
10	14.0	11.0	9.0	5.0	1.0	.0	.0	.0	.5	.5	4.5	2.5
11	14.0	12.5	10.0	5.0	.0	.0	.0	.0	.5	.5	2.0	.5
12	15.5	12.5	9.5	8.0	.0	.0	.0	.0	.5	.0	4.0	.0
13	14.5	12.5	11.0	7.5	.5	.0	.0	.0	.5	.0	6.0	1.0
14	12.5	11.0	12.0	9.0	.0	.0	.0	.0	.5	.0	5.5	2.5
15	11.0	9.0	8.5	5.0	1.5	.0	.0	.0	.5	.0	3.0	.5
16	10.0	8.5	7.0	5.0	.5	.5	.0	.0	.5	.0	5.0	.0
17	10.0	7.0	10.5	5.0	1.0	.5	.0	.0	.5	.0	7.5	1.5
18	9.5	7.5	8.5	5.5	.5	.0	.0	.0	.5	.0	11.0	5.0
19	12.0	9.5	6.0	4.5	.5	.0	.0	.0	.5	.0	8.5	6.5
20	11.0	8.0	5.5	5.0	3.5	.0	.0	.0	.5	.0	10.5	6.5
21	13.0	8.5	5.0	4.0	3.5	.5	.0	.0	.0	.0	12.5	7.0
22	14.5	11.0	4.5	4.0	1.0	.0	.0	.0	.0	.0	12.5	7.0
23	13.5	9.5	7.0	4.5	.5	.0	.0	.0	.0	.0	12.5	9.0
24	10.0	7.5	6.5	3.5	1.0	.0	.0	.0	.0	.0	11.0	8.5
25	10.5	5.0	3.5	3.0	1.0	.0	.0	.0	.0	.0	8.5	5.0
26	12.0	10.0	3.0	2.5	.5	.0	.5	.0	.0	.0	5.0	3.5
27	10.5	7.5	3.0	1.5	.0	.0	.5	.5	.0	.0	7.5	2.0
28	10.0	7.0	2.5	.5	.5	.0	.5	.5	.0	.0	7.5	2.0
29	8.5	5.5	1.0	.0	.5	.0	.5	.5	---	---	8.5	6.0
30	9.0	4.5	1.0	.5	.5	.0	.5	.5	---	---	11.0	8.5
31	10.5	5.0	---	---	3.0	.5	.5	.5	---	---	11.0	9.5
MONTH	20.0	4.5	12.5	.0	5.5	.0	3.0	.0	.5	.0	12.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	7.5	16.5	10.0	22.0	17.0	20.5	19.0	28.5	25.5	26.0	23.5
2	11.0	7.0	19.0	11.0	23.5	19.0	20.0	18.5	---	---	25.0	24.0
3	12.0	8.0	18.5	15.0	25.5	19.5	24.0	18.0	---	---	26.0	23.0
4	8.5	5.5	16.5	12.5	26.5	20.0	22.5	19.0	---	---	25.5	24.0
5	7.0	5.0	16.5	10.0	24.5	21.0	21.5	17.5	---	---	24.5	22.5
6	6.5	3.5	19.5	13.0	24.0	21.0	24.0	17.5	---	---	25.0	23.0
7	7.5	2.5	23.5	15.5	25.0	23.5	25.0	18.5	---	---	23.5	21.5
8	6.5	4.5	26.0	19.5	25.5	22.5	26.0	19.5	---	---	21.0	19.0
9	6.0	4.0	26.5	21.5	28.5	23.5	24.5	22.0	---	---	21.5	18.5
10	7.0	3.5	25.0	22.0	29.0	24.0	26.0	21.0	---	---	22.5	19.0
11	6.5	4.5	26.5	21.5	25.5	21.0	28.0	22.5	---	---	23.0	21.0
12	12.0	8.5	24.5	19.5	24.5	19.5	29.5	24.0	---	---	23.5	20.0
13	12.0	11.0	20.5	17.0	24.0	18.5	28.0	25.0	---	---	23.5	21.5
14	12.5	10.0	21.5	15.0	25.5	19.5	29.5	25.0	---	---	22.5	20.0
15	11.5	9.0	22.0	17.5	28.5	22.5	31.0	25.0	---	---	20.0	19.0
16	9.0	8.0	22.0	15.0	28.5	24.0	31.5	26.5	---	---	20.5	18.0
17	12.5	7.5	22.0	15.5	---	---	29.0	25.0	---	---	21.0	18.0
18	14.0	8.5	23.5	17.0	---	---	28.0	22.0	---	---	21.5	18.5
19	15.0	9.0	25.0	18.5	---	---	27.5	21.5	---	---	21.0	19.0
20	16.5	9.5	24.0	21.0	---	---	28.5	22.0	---	---	---	---
21	16.0	11.0	24.5	20.0	---	---	29.0	22.5	---	---	---	---
22	15.5	13.0	22.5	17.5	---	---	28.5	24.0	---	---	---	---
23	19.0	11.5	20.5	17.0	---	---	28.5	23.0	---	---	---	---
24	17.5	14.5	19.0	16.5	---	---	27.5	25.0	---	---	---	---
25	21.5	15.5	14.5	12.0	---	---	26.5	24.0	---	---	---	---
26	20.0	17.0	11.5	11.0	---	---	27.5	24.5	---	---	---	---
27	16.5	13.5	14.0	11.0	---	---	29.0	23.0	---	---	---	---
28	14.0	11.5	15.5	13.0	---	---	27.5	25.5	---	---	---	---
29	12.5	10.5	18.5	14.0	24.5	23.0	29.5	24.0	---	---	---	---
30	15.5	10.0	16.5	15.0	23.5	21.0	28.0	23.5	26.0	23.0	---	---
31	---	---	18.0	15.0	---	---	31.5	26.0	---	---	---	---
MONTH	21.5	2.5	26.5	10.0	29.0	17.0	31.5	17.5	28.5	23.0	26.0	18.0
YEAR	31.5	.0										

04199000 HURON RIVER AT MILAN, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.9	9.8	12.0	7.4	12.1	11.3	---	---	12.9	12.5	12.7	12.5
2	14.7	9.0	12.5	8.2	12.1	11.5	---	---	13.2	12.5	13.1	12.8
3	13.3	9.0	13.4	8.3	11.9	9.7	---	---	13.1	12.5	13.2	12.2
4	11.9	7.8	13.1	7.7	10.7	9.8	---	---	13.0	12.4	12.4	11.4
5	11.7	7.0	13.2	7.2	10.9	10.7	---	---	13.0	12.4	11.6	11.4
6	12.2	7.0	11.3	6.8	10.9	10.6	---	---	12.9	12.1	11.7	11.4
7	12.5	8.5	10.5	7.2	10.9	10.0	---	---	12.5	11.8	11.7	10.8
8	12.0	8.4	13.3	8.5	10.9	9.5	---	---	12.5	12.0	12.2	10.4
9	12.3	8.6	13.5	8.7	---	---	---	---	12.6	11.8	12.3	11.2
10	12.7	8.9	13.8	8.4	13.0	12.7	---	---	12.3	11.7	12.4	11.9
11	12.5	8.2	13.9	8.1	13.1	12.4	---	---	12.3	11.6	12.8	12.4
12	12.7	6.9	9.3	7.8	12.6	12.0	---	---	11.9	11.0	12.9	11.9
13	11.0	6.6	13.0	7.7	12.0	11.6	---	---	11.0	10.4	12.6	11.2
14	10.2	7.9	11.0	6.9	---	---	---	---	10.6	10.1	11.9	11.0
15	11.8	9.6	12.1	7.7	12.1	11.4	---	---	10.3	9.9	13.1	11.9
16	11.3	9.8	14.2	9.0	11.8	11.3	---	---	10.7	10.0	12.8	11.6
17	13.1	10.3	10.8	7.7	11.6	10.8	---	---	11.1	10.7	12.4	10.9
18	13.4	10.0	11.4	8.6	11.6	11.3	---	---	11.2	10.8	11.3	9.9
19	14.1	9.4	12.9	10.1	11.8	11.3	---	---	11.0	10.5	11.1	10.2
20	13.7	8.9	11.8	9.9	14.5	11.5	---	---	10.6	10.3	11.0	10.0
21	13.6	9.0	12.7	9.8	14.4	12.9	---	---	10.9	10.0	---	---
22	13.9	7.8	12.5	9.9	14.9	13.9	---	---	12.7	11.0	---	---
23	10.0	6.7	10.5	9.3	15.1	14.0	---	---	13.1	12.6	---	---
24	12.7	7.9	11.5	9.3	14.8	13.9	---	---	13.3	13.0	---	---
25	13.1	8.0	13.7	10.1	14.9	13.9	---	---	13.2	13.0	---	---
26	8.2	7.1	13.1	10.3	13.8	13.0	12.9	12.2	12.9	12.0	---	---
27	12.0	7.5	12.5	10.3	13.6	12.5	12.9	12.3	12.4	12.0	---	---
28	12.5	8.0	13.7	10.3	13.5	12.2	12.7	12.3	12.8	12.4	---	---
29	12.9	8.4	13.9	11.1	12.7	10.7	12.9	12.4	---	---	---	---
30	12.9	8.6	12.0	11.1	10.7	9.6	13.1	12.7	---	---	10.7	10.1
31	12.6	8.0	---	---	---	---	13.1	12.7	---	---	10.3	10.1
MONTH	14.7	6.6	14.2	6.8	15.1	9.5	13.1	12.2	13.3	9.9	13.2	9.9

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.2	10.4	14.7	8.5	8.6	7.5	8.7	7.8	11.0	5.5	10.1	7.0
2	10.7	9.9	13.9	8.5	9.1	7.4	9.4	8.6	10.5	6.1	9.4	6.8
3	10.9	9.7	13.1	7.7	9.5	7.0	9.7	7.9	8.6	7.1	10.0	7.0
4	10.7	9.7	13.5	9.0	10.0	6.8	8.9	7.9	9.2	6.7	9.4	6.3
5	10.9	10.6	13.7	9.5	10.8	6.6	9.3	8.5	9.4	6.7	10.1	6.5
6	11.9	10.6	12.8	8.0	11.3	6.7	9.3	8.3	10.4	6.8	10.3	4.0
7	12.1	11.0	12.1	6.9	10.9	6.3	9.4	8.0	11.0	6.6	9.9	4.8
8	11.5	10.6	10.9	5.9	9.9	5.7	9.5	7.8	10.3	6.0	9.9	6.8
9	11.4	10.6	9.9	5.2	9.4	5.6	8.4	7.7	10.9	6.3	11.5	7.5
10	11.4	10.0	7.7	4.8	9.1	5.5	8.9	7.9	9.3	6.1	10.9	6.4
11	---	---	6.5	5.5	7.1	6.3	8.6	7.4	9.5	5.9	10.2	5.9
12	---	---	7.2	5.8	8.3	6.6	9.5	7.4	10.4	7.2	10.8	6.1
13	11.1	10.2	8.6	7.0	9.3	6.4	10.5	7.3	11.2	6.9	10.0	5.4
14	11.6	10.9	9.7	6.7	9.9	6.4	13.1	7.1	10.8	6.6	7.4	3.9
15	11.5	11.1	9.5	6.7	10.0	5.5	14.6	6.8	11.5	6.9	8.7	6.9
16	11.9	11.5	11.4	6.9	10.4	5.1	13.7	6.4	10.4	6.4	9.0	8.3
17	11.8	10.5	12.1	7.6	---	---	11.8	6.2	9.0	5.8	9.4	8.1
18	11.2	9.9	12.0	6.9	---	---	10.8	6.6	7.7	5.3	9.5	8.0
19	11.0	9.7	11.5	6.3	---	---	10.9	6.7	9.7	5.2	11.0	7.9
20	10.8	9.3	10.8	6.0	---	---	11.6	6.8	9.2	5.3	11.1	8.2
21	10.2	9.1	10.9	6.3	---	---	12.6	6.5	9.5	5.3	10.5	7.3
22	10.0	9.0	11.2	6.4	---	---	11.5	6.4	9.1	5.8	11.4	7.3
23	10.2	8.2	10.6	6.4	---	---	8.4	6.5	8.8	5.1	10.8	7.3
24	9.8	8.2	7.3	5.8	---	---	8.5	6.5	8.9	4.9	9.7	6.3
25	9.6	7.1	8.0	6.1	---	---	9.0	7.2	10.4	5.5	8.2	4.5
26	9.4	7.0	8.6	8.2	---	---	9.4	7.0	8.7	6.8	---	---
27	10.2	7.3	8.6	8.2	---	---	9.4	7.0	9.7	6.7	---	---
28	10.7	8.0	8.5	8.2	---	---	10.2	7.0	10.2	6.2	---	---
29	12.9	8.6	8.5	7.8	9.3	7.4	11.8	7.2	9.7	6.9	---	---
30	13.2	9.8	8.4	7.8	8.6	7.1	12.6	6.9	9.2	7.5	---	---
31	---	---	8.6	7.9	---	---	13.4	6.3	9.6	7.2	---	---
MONTH	13.2	7.0	14.7	4.8	11.3	5.1	14.6	6.2	11.5	4.9	11.5	3.9
YEAR	15.1	3.9										

04199500 VERMILION RIVER NEAR VERMILION, OH

LOCATION.--Lat 41°22'55", long 82°19'01", in T.6 N., R.19 W., Lorain County, Hydrologic Unit 04100012, on right bank 40 ft (12 m) downstream from bridge on North Ridge Road, 3.5 mi (5.6 km) southeast of Vermilion and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--262 mi^2 (674 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1912: Drainage area. WDR-OH-70-1: 1969.

GAGE.--Water-stage recorders. Datum of gage is 595.14 ft (181.399 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 3, 1953, nonrecording gage at site 40 ft (12 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair.

AVERAGE DISCHARGE.--29 years, 261 ft^3/s (7.392 m^3/s), 13.53 in/yr (344 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft^3/s (1,160 m^3/s) July 6, 1969, gage height, 17.14 ft (5.224 m), from rating curve extended above 7,000 ft^3/s (198 m^3/s on basis of contracted-opening measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft^3/s (90.6 m^3/s) and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 24	---	4500	127	---	---	Apr. 13	2200	6160	174	7.44	2.268
Mar. 4	1200	*11000	312	[a]*16.13	4.916	May 26	1600	3610	102	6.28	1.914

Minimum discharge, 2.0 ft^3/s (0.06 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	4.9	16	350	70	1100	363	72	169	129	21	74
2	2.4	5.4	11	1390	64	1800	321	64	229	181	45	50
3	2.6	4.9	49	814	62	3300	629	62	166	158	155	59
4	8.0	5.4	122	321	60	9000	376	66	117	127	87	95
5	6.6	6.0	158	220	58	7600	840	69	89	607	49	59
6	6.6	5.4	134	150	56	2800	550	67	71	333	33	42
7	6.0	6.0	78	110	54	1100	350	61	67	161	24	36
8	7.2	6.0	92	90	52	651	290	53	78	100	20	27
9	4.9	6.0	239	80	50	518	450	46	61	78	19	21
10	4.0	6.6	350	68	48	525	1300	55	52	61	17	17
11	3.6	6.0	209	62	48	480	640	84	44	56	17	15
12	3.6	6.0	124	60	48	281	400	69	38	58	41	13
13	8.0	6.0	78	58	50	222	2830	64	34	45	31	12
14	22	6.6	53	58	52	229	4290	52	27	184	25	212
15	17	7.2	53	56	52	242	924	56	23	190	18	1180
16	12	8.0	45	56	52	187	499	49	19	100	14	487
17	10	9.2	33	56	52	150	376	41	17	62	11	216
18	9.6	14	46	56	52	144	313	35	15	41	17	132
19	8.0	13	33	56	52	144	242	31	14	31	19	89
20	6.6	11	34	56	54	150	194	27	16	25	25	64
21	5.4	11	25	56	64	144	151	25	209	21	46	49
22	4.4	11	36	56	100	129	139	21	132	16	50	39
23	3.6	11	29	56	300	117	124	20	139	28	46	32
24	2.9	13	28	60	2700	127	115	19	98	17	69	28
25	2.6	12	24	80	2500	158	106	175	56	50	84	24
26	4.0	11	23	110	2200	190	98	2300	36	44	69	21
27	6.6	11	23	105	1300	152	100	2290	27	32	72	19
28	6.6	12	22	100	560	152	98	797	23	36	59	21
29	6.0	15	24	90	---	659	89	390	21	53	178	24
30	4.4	12	26	84	---	1040	82	259	45	46	164	34
31	4.0	---	33	76	---	621	---	194	---	27	127	---
TOTAL	201.4	262.6	2250	5040	10810	34112	17239	7613	2132	3097	1652	3191
MEAN	6.50	8.75	72.6	163	386	1100	576	246	71.1	99.9	53.3	105
MAX	22	15	350	1390	2700	9000	4290	2300	229	607	178	1180
MIN	2.2	4.9	11	56	48	117	82	19	14	16	11	12
CFSM	.03	.03	.28	.62	1.47	4.20	2.20	.94	.27	.38	.20	.41
IN.	.03	.04	.32	.72	1.53	4.84	2.45	1.08	.30	.44	.23	.45

CAL YR 1978 TOTAL 240545.0 MEAN 659 MAX 22500 MIN 2.2 CFSM 2.52 IN 34.15
WTR YR 1979 TOTAL 87650.0 MEAN 240 MAX 9000 MIN 2.2 CFSM .92 IN 12.44

[a] Ice jam

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1950 to February 1952, February 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1969 to current year.
pH: December 1976 to current year.
WATER TEMPERATURES: March to August 1950, February 1969 to current year.
DISSOLVED OXYGEN: December 1976 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1969.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Sediment data collected at this site 1970 to 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,230 micromhos Nov. 13, 1979; minimum, 168 micromhos Jan. 19, 1974.
pH: Maximum, 9.1 units May 1, 11, 1977; minimum, 7.4 units July 1, 1977.
WATER TEMPERATURES: Maximum, 34.0°C Aug. 5, 1973, July 8, 1974; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 16.6 mg/L Mar. 6, 1979; minimum recorded, 4.0 mg/L Sept. 28, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,230 micromhos Nov. 13; minimum, 195 micromhos Mar. 4.
pH: Maximum, 8.9 units Apr. 25; minimum, 7.0 units Feb. 23, 24, Mar. 4, 5.
WATER TEMPERATURES: Maximum, 29.5°C June 17, Aug. 7; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 16.6 mg/L Mar. 6; minimum recorded, 4.0 mg/L Sept. 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
SEP												
15...	1600	1280	335	7.8	--	--	73	50	13	10	196	.27
15...	1800	1180	331	7.6	--	--	57	48	12	9.9	194	.26
15...	2000	1080	329	7.7	--	--	45	46	12	9.4	201	.27
15...	2200	990	328	7.7	--	--	36	45	11	9.0	200	.27
15...	2359	898	326	7.7	--	--	43	47	11	9.2	203	.29
16...	0200	803	329	7.6	--	--	39	47	12	12	215	.29
16...	0400	708	333	7.6	--	--	32	43	11	10	223	.30
16...	0600	620	338	7.7	--	--	32	44	11	9.0	220	.30
16...	0800	546	341	7.7	--	--	38	49	12	9.6	222	.30
16...	1000	490	345	7.8	--	--	31	48	12	9.6	217	.29
16...	1200	438	349	7.5	--	--	33	49	12	9.7	221	.30
16...	1400	399	353	7.7	--	--	30	52	12	10	232	.32
20...	1430	61	489	8.3	16.5	7.3	15	67	19	10	317	.43

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP												
15...	677	263	2.6	.03	1.9	1.9	4.6	21	.38	.09	.28	10
15...	616	235	2.4	.02	1.7	1.7	4.2	18	.36	.08	.25	10
15...	586	214	2.2	.02	1.6	1.6	3.9	17	.33	.07	.21	10
15...	533	182	2.4	.11	1.7	1.8	4.2	19	.30	.09	.28	10
15...	491	167	2.2	.06	1.7	1.7	4.0	18	.29	.07	.21	10
16...	466	160	2.3	.15	1.7	1.8	4.1	18	.29	.10	.31	10
16...	426	138	2.2	.05	1.7	1.7	4.0	18	.27	.09	.28	10
16...	367	118	2.4	.40	1.2	1.6	4.0	18	.26	.14	.43	10
16...	327	115	2.5	.20	1.5	1.7	4.2	19	.25	.11	.34	10
16...	286	120	2.4	.10	1.5	1.5	4.0	18	.25	.10	.31	10
16...	261	106	2.4	.10	1.5	1.6	4.0	18	.23	.07	.21	10
16...	250	113	2.4	.05	1.3	1.3	3.8	17	.22	.09	.28	10
20...	52.1	15	1.3	.17	.55	.72	2.1	9.3	.09	.06	.18	8.7

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	837	801	1080	789	828	810	837	492	---	---	549	510
2	840	807	834	795	---	---	837	417	---	---	531	405
3	816	771	825	807	846	663	---	---	---	---	396	237
4	777	753	840	816	750	705	---	---	---	---	264	195
5	762	717	1120	795	750	711	---	---	861	831	276	210
6	735	717	1100	825	711	690	---	---	870	858	318	243
7	786	738	825	783	732	699	---	---	---	---	456	321
8	777	741	1210	786	741	654	---	---	---	---	453	375
9	762	750	813	783	663	609	---	---	---	---	429	399
10	753	738	1200	789	636	585	---	---	921	903	498	432
11	753	738	999	810	1040	582	---	---	933	921	477	453
12	750	720	990	819	975	570	---	---	948	924	630	474
13	744	708	1230	828	576	570	---	---	948	933	522	501
14	747	654	1160	916	630	597	---	---	---	---	810	522
15	753	693	1220	904	663	627	---	---	---	---	717	543
16	726	684	831	801	654	639	---	---	945	936	630	543
17	729	687	822	783	654	633	---	---	957	942	654	564
18	735	699	810	792	678	654	---	---	969	954	660	573
19	732	681	807	780	1150	672	---	---	978	969	660	598
20	729	684	783	771	1160	690	---	---	981	975	687	603
21	720	675	804	774	927	678	---	---	---	---	909	669
22	720	675	789	759	723	690	---	---	---	---	882	624
23	729	684	765	738	720	675	---	---	939	315	855	681
24	921	696	771	738	723	690	---	---	333	234	927	789
25	942	690	795	774	741	690	---	---	---	---	930	753
26	1030	732	882	798	---	---	891	815	---	---	831	654
27	1100	717	930	795	---	---	897	855	---	---	741	660
28	762	747	834	798	798	735	876	828	---	---	759	618
29	780	756	843	819	813	792	936	816	---	---	669	513
30	804	783	846	816	864	774	828	807	---	---	714	480
31	828	804	---	---	798	612	849	789	---	---	639	489
MONTH	1100	654	1230	738	1160	570	936	417	981	234	930	195

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	636	561	444	399	---	---	554	522	546	516	636	591
2	633	537	561	405	---	---	528	495	579	525	645	627
3	618	531	---	---	---	---	579	507	558	498	675	540
4	627	522	---	---	---	---	606	543	534	462	627	582
5	558	429	---	---	---	---	582	438	474	453	657	621
6	492	429	---	---	---	---	450	420	489	453	687	639
7	522	453	---	---	558	540	495	438	507	456	666	627
8	546	495	---	---	573	534	537	477	507	492	636	612
9	558	417	---	---	612	561	525	501	513	495	645	600
10	468	396	---	---	636	585	570	519	528	507	660	603
11	474	411	---	---	606	558	585	549	519	498	654	630
12	489	381	---	---	618	558	594	558	540	489	657	606
13	495	375	---	---	618	555	592	558	531	489	645	621
14	---	---	---	---	624	555	570	546	543	513	618	459
15	---	---	---	---	645	579	546	456	519	504	537	395
16	---	---	---	---	645	591	513	444	642	498	438	396
17	---	---	---	---	663	594	525	492	609	585	483	435
18	438	324	---	---	618	576	546	489	621	570	513	474
19	459	432	---	---	642	555	546	504	669	600	528	501
20	483	333	---	---	681	567	551	495	627	609	534	495
21	498	339	---	---	588	459	573	525	606	573	543	525
22	435	351	---	---	648	531	570	537	660	594	546	525
23	402	360	---	---	618	534	606	522	666	639	564	519
24	405	384	---	---	615	534	609	558	669	579	573	525
25	402	369	---	---	591	555	579	552	609	561	588	537
26	399	375	---	---	597	522	600	567	618	603	591	552
27	456	393	---	---	630	564	621	552	645	609	591	555
28	465	402	---	---	657	588	612	597	684	642	588	567
29	489	411	---	---	630	579	633	591	666	594	618	575
30	450	411	---	---	603	555	588	543	603	555	627	594
31	---	---	---	---	---	---	552	531	612	555	---	---
MONTH	636	324	561	399	681	459	633	420	684	453	687	395
YEAR	1230	195										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.3	8.1	8.3	8.1	8.4	8.1	7.8	7.5	---	---	7.3	7.3
2	8.4	8.2	8.3	8.1	8.4	8.1	7.6	7.4	---	---	7.3	7.3
3	8.3	8.0	8.1	8.0	8.2	7.8	---	---	---	---	7.2	7.1
4	8.3	7.9	8.1	8.0	8.0	7.8	---	---	7.7	7.5	7.1	7.0
5	8.3	8.1	8.1	8.0	8.1	8.0	---	---	7.7	7.5	7.1	7.0
6	8.4	8.2	8.1	8.0	8.1	8.0	---	---	7.7	7.6	7.2	7.1
7	8.4	8.2	8.1	8.0	8.1	8.0	---	---	7.7	7.5	7.3	7.2
8	8.4	8.2	8.1	8.1	8.0	7.8	---	---	7.6	7.5	7.5	7.3
9	8.4	8.2	8.2	8.1	7.9	7.8	---	---	7.6	7.5	7.4	7.4
10	8.4	8.2	8.2	8.1	7.9	7.8	---	---	7.5	7.4	7.5	7.5
11	8.4	8.2	8.2	8.0	7.9	7.8	---	---	7.4	7.3	7.5	7.5
12	8.3	8.2	8.1	8.0	7.9	7.8	---	---	7.3	7.3	7.5	7.5
13	8.4	8.0	8.2	8.0	8.0	7.8	---	---	7.3	7.3	7.6	7.5
14	8.2	7.9	8.1	8.0	8.0	8.0	---	---	7.3	7.3	7.7	7.6
15	8.2	8.0	8.2	8.0	8.1	7.9	---	---	7.3	7.3	7.7	7.7
16	8.3	8.1	8.2	8.1	8.0	7.9	8.2	8.0	7.3	7.2	7.7	7.5
17	8.4	8.1	8.1	8.0	8.1	8.0	8.2	8.1	7.3	7.3	7.7	7.6
18	8.4	8.2	8.1	8.0	8.0	7.9	8.4	8.2	7.3	7.3	7.7	7.7
19	8.5	8.1	8.2	8.0	8.1	8.0	8.3	8.3	7.3	7.3	7.7	7.7
20	8.5	8.2	8.1	8.1	8.1	8.0	8.3	8.3	7.3	7.3	7.8	7.7
21	8.5	8.1	8.2	8.1	8.2	8.0	8.3	8.3	7.3	7.3	7.8	7.8
22	8.5	8.1	8.2	8.1	8.2	8.0	8.3	8.3	7.5	7.3	7.8	7.8
23	8.3	8.0	8.2	8.1	8.2	8.0	8.4	8.3	7.5	7.0	7.9	7.8
24	8.4	8.1	8.2	8.0	8.2	8.0	8.3	8.3	7.2	7.0	7.9	7.8
25	8.3	8.2	8.3	8.1	8.3	8.0	8.4	8.3	---	---	8.0	7.8
26	8.1	8.0	8.4	8.1	---	---	8.3	7.4	---	---	8.1	7.9
27	8.3	8.0	8.3	8.1	---	---	8.0	7.5	---	---	8.1	8.0
28	8.3	8.0	8.4	8.1	8.3	8.1	7.7	7.6	---	---	8.1	7.6
29	8.3	8.1	8.4	8.1	8.3	8.0	7.6	7.5	---	---	7.6	7.5
30	8.3	8.1	8.4	8.1	8.3	8.0	7.6	7.5	---	---	7.5	7.5
31	8.3	8.1	---	---	8.3	7.8	7.8	7.6	---	---	7.6	7.5
MONTH	8.5	7.9	8.4	8.0	8.4	7.8	8.4	7.4	7.7	7.0	8.1	7.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.6	8.3	8.1	8.0	7.7	8.0	7.9	8.4	7.9	8.4	8.0
2	7.7	7.6	8.3	8.0	8.1	7.8	8.0	7.9	8.3	7.9	8.4	8.1
3	7.8	7.7	8.2	7.9	8.3	7.8	8.0	7.9	8.2	7.9	8.4	7.9
4	7.8	7.5	8.2	7.9	8.8	8.0	8.1	7.8	8.2	7.9	8.2	8.0
5	7.6	7.4	8.2	8.0	8.8	8.2	8.0	7.6	8.3	7.9	8.4	8.0
6	7.7	7.5	8.2	7.9	8.7	8.1	7.7	7.6	8.5	7.9	8.5	8.0
7	7.6	7.5	8.2	7.9	8.6	8.0	7.9	7.7	8.6	7.9	8.5	8.0
8	7.7	7.5	8.2	7.9	8.5	7.8	8.1	7.8	8.5	7.9	8.5	8.2
9	7.6	7.4	8.2	7.8	8.2	7.8	8.1	7.8	8.6	7.9	8.6	8.2
10	7.4	7.4	8.1	7.8	8.1	7.8	8.4	7.9	8.5	7.9	8.6	8.2
11	7.5	7.4	8.2	7.8	8.1	7.9	8.5	7.9	8.5	8.0	8.7	8.1
12	7.7	7.5	8.2	7.8	8.2	7.9	8.7	8.0	8.5	8.1	8.7	8.1
13	7.7	7.3	8.3	7.9	8.2	7.9	8.8	8.2	8.6	8.1	8.6	8.1
14	7.3	7.1	8.3	8.0	8.2	7.9	8.5	8.1	8.6	8.1	8.1	7.6
15	7.3	7.2	8.4	7.9	8.3	7.9	8.1	7.9	8.6	8.1	7.8	7.5
16	7.5	7.3	8.3	8.0	8.3	7.9	8.3	7.8	8.6	8.1	7.7	7.6
17	7.6	7.5	8.3	8.0	8.3	7.9	8.4	7.9	8.5	8.1	7.9	7.7
18	7.7	7.6	8.3	8.0	8.3	7.9	8.6	8.0	8.4	7.9	8.0	7.9
19	7.7	7.7	8.2	8.0	8.2	7.9	8.7	8.0	8.5	7.9	8.1	7.9
20	7.8	7.7	8.2	7.9	8.2	7.7	8.6	8.0	8.4	7.9	8.2	8.0
21	8.0	7.8	8.2	7.9	7.7	7.5	8.6	7.9	8.4	8.0	8.2	8.0
22	8.2	7.8	8.2	8.0	8.1	7.6	8.5	7.9	8.5	8.1	8.4	8.0
23	8.4	7.9	8.2	8.0	8.0	7.9	8.5	7.9	8.5	8.1	8.5	8.1
24	8.7	8.0	8.1	7.9	8.2	8.0	8.5	7.9	8.4	7.8	8.5	8.1
25	8.9	8.1	8.0	7.6	8.2	7.9	8.3	7.9	8.2	7.8	8.6	8.1
26	8.7	8.1	7.6	7.4	8.3	7.9	8.4	8.0	8.2	8.0	8.7	8.1
27	8.6	8.1	7.4	7.3	8.4	7.9	8.5	8.0	8.3	8.0	8.8	8.2
28	8.5	8.1	7.6	7.4	8.5	7.9	8.5	8.0	8.4	8.0	8.6	8.2
29	8.4	8.1	7.7	7.6	8.4	7.9	8.5	8.0	8.1	7.9	8.7	8.1
30	8.3	8.0	7.8	7.7	8.1	7.9	8.6	8.1	8.1	7.9	8.5	8.1
31	---	---	7.8	7.7	---	---	8.6	8.0	8.2	8.0	---	---
MONTH	8.9	7.1	8.4	7.3	8.8	7.5	8.8	7.6	8.6	7.8	8.8	7.5
YEAR	8.9	7.0										

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.5	16.0	11.5	7.5	3.0	.5	2.5	2.0	---	---	.0	.0
2	16.0	13.0	10.5	5.5	2.5	1.5	2.0	.5	---	---	.0	.0
3	16.5	12.5	11.5	7.0	6.0	1.5	---	---	---	---	.5	.0
4	16.5	13.0	12.5	7.5	6.0	2.5	---	---	.5	.5	2.0	.5
5	16.0	12.0	13.5	8.5	3.0	1.5	---	---	.5	.5	2.5	2.0
6	13.5	11.5	12.0	10.5	3.0	2.0	---	---	.5	.5	2.5	2.0
7	13.0	10.5	10.5	7.5	5.0	3.0	---	---	.5	.5	4.0	1.5
8	12.0	9.0	9.0	5.0	5.0	3.5	---	---	.5	.5	5.0	3.0
9	13.5	8.0	9.5	5.0	3.5	1.5	---	---	.5	.0	4.0	3.5
10	16.0	9.5	10.0	6.0	1.5	.5	---	---	.0	.0	4.5	2.5
11	15.0	10.5	10.5	6.5	1.0	.5	---	---	.0	.0	2.5	1.0
12	16.5	13.0	10.5	8.5	1.5	.5	---	---	.0	.0	3.5	.0
13	15.5	13.0	11.5	8.0	1.5	1.0	---	---	.0	.0	5.0	1.0
14	13.5	11.5	12.5	9.5	1.0	.5	---	---	.0	.0	5.0	2.5
15	13.0	10.0	9.0	7.0	1.5	.5	---	---	.0	.0	2.5	.5
16	11.0	9.0	8.5	6.0	1.5	.5	.0	.0	.0	.0	4.0	.0
17	12.0	7.5	11.0	7.0	2.5	.5	.0	.0	.0	.0	5.5	1.5
18	11.0	8.0	8.0	6.5	.5	.5	.0	.0	.0	.0	8.5	4.5
19	13.0	10.0	7.5	5.5	2.5	.5	.0	.0	.0	.0	8.0	5.5
20	13.5	8.5	6.0	5.5	3.0	.5	.0	.0	.0	.0	9.5	6.0
21	15.0	9.0	5.5	5.0	2.0	.5	.0	.0	.0	.0	11.5	7.0
22	16.0	11.0	5.0	4.5	1.0	.5	.0	.0	.0	.0	11.5	7.0
23	14.5	10.0	7.0	4.5	1.5	.5	.0	.0	.0	.0	12.0	9.0
24	12.5	6.5	6.5	4.0	1.0	.5	.0	.0	.0	.0	11.0	8.5
25	12.0	7.0	4.5	3.5	.5	.5	.0	.0	---	---	8.5	5.5
26	13.0	10.5	4.0	2.5	---	---	.0	.0	---	---	5.5	4.0
27	12.0	8.0	3.5	1.5	---	---	.5	.5	---	---	7.0	3.0
28	11.0	8.0	3.0	.5	.5	.5	.5	.5	---	---	6.5	2.5
29	10.0	6.0	2.0	.5	1.0	.5	.5	.5	---	---	8.5	6.0
30	10.5	5.0	3.0	.5	1.0	.5	.5	.5	---	---	10.0	8.0
31	11.5	7.0	---	---	1.5	.5	.5	.5	---	---	10.5	9.5
MONTH	17.5	5.0	13.5	.5	6.0	.5	2.5	.0	.5	.0	12.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	8.0	16.0	9.5	20.0	15.5	19.0	17.5	27.5	24.0	25.5	21.5
2	10.0	8.0	17.5	11.0	21.0	17.5	18.0	17.5	27.5	22.5	24.5	23.0
3	10.5	7.5	16.5	14.5	23.0	18.0	20.5	15.5	26.0	22.5	26.5	22.0
4	8.0	6.0	14.5	11.0	25.0	19.0	21.5	17.5	28.0	22.5	25.0	22.0
5	6.5	5.5	14.5	9.0	23.0	20.0	19.5	17.5	27.5	24.0	25.0	21.0
6	6.0	4.0	18.0	11.5	24.5	19.5	21.0	16.0	29.0	23.0	27.0	23.0
7	6.0	3.0	22.0	14.5	24.5	22.0	22.0	16.5	29.5	21.5	25.0	21.0
8	5.5	3.5	25.0	18.0	25.0	22.0	24.0	18.0	27.5	24.5	20.5	17.5
9	5.5	4.0	26.5	20.0	27.5	22.5	22.0	20.0	26.5	23.0	21.5	16.0
10	6.0	3.5	24.0	21.5	29.0	23.5	25.5	20.0	26.5	23.5	23.0	16.5
11	5.5	4.0	26.0	21.0	25.5	19.5	26.5	22.0	24.0	20.0	24.0	19.5
12	10.0	5.5	23.5	18.0	25.0	18.5	27.5	23.5	24.0	18.5	25.5	18.0
13	11.0	9.0	19.0	16.5	24.5	17.5	25.5	24.0	24.0	18.5	24.5	20.0
14	11.5	9.5	20.5	15.0	25.5	18.0	26.0	23.0	24.5	20.0	22.0	18.0
15	11.0	10.0	22.5	17.0	28.5	21.0	27.5	23.5	20.5	18.0	18.0	17.0
16	9.5	8.5	21.5	15.0	28.5	22.5	29.0	24.0	24.0	16.0	18.0	15.5
17	11.0	7.0	21.5	14.0	29.5	22.5	26.5	23.0	19.5	17.0	18.5	15.0
18	12.5	7.5	23.5	15.5	24.5	20.0	27.0	21.0	21.5	17.0	20.0	16.5
19	13.0	8.0	25.0	16.5	27.0	17.0	27.0	19.5	26.5	19.5	19.0	16.5
20	14.0	9.0	24.0	19.0	28.0	19.0	27.5	20.0	24.0	21.0	17.5	13.5
21	14.5	11.0	23.5	18.0	23.0	19.0	28.5	20.5	24.5	21.0	17.0	16.0
22	14.0	12.5	23.0	15.5	26.0	20.0	27.0	22.0	25.0	20.5	17.0	15.0
23	17.0	10.5	20.5	15.0	23.5	19.0	28.5	22.0	25.0	22.5	18.0	13.0
24	16.5	13.5	17.0	13.0	22.0	17.0	27.5	23.0	25.5	22.5	18.5	12.5
25	19.5	14.5	13.0	10.0	23.0	16.5	25.0	24.0	23.0	20.0	20.0	13.5
26	18.5	16.0	10.5	9.5	25.5	17.0	26.0	23.0	21.5	20.5	20.5	14.5
27	16.0	12.5	12.0	10.0	27.0	19.0	28.5	21.5	22.0	19.5	20.0	14.5
28	12.5	11.0	13.5	11.5	28.0	21.0	26.0	24.0	24.0	20.5	19.0	17.0
29	11.5	10.0	17.0	12.0	23.5	21.5	27.5	22.5	23.5	21.0	21.5	17.5
30	14.0	9.5	15.0	13.5	22.0	19.0	27.0	21.5	25.0	21.0	21.0	17.0
31	---	---	16.5	13.5	---	---	29.5	24.0	25.5	21.5	---	---
MONTH	19.5	3.0	26.5	9.0	29.5	15.5	29.5	16.0	29.5	16.0	27.0	12.5
YEAR	29.5	.0										

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.8	7.8	12.7	10.3	15.0	13.2	---	---	---	---	---	---
2	10.8	8.5	12.9	9.8	14.7	13.1	---	---	---	---	---	---
3	10.8	8.6	11.2	9.6	13.7	12.6	---	---	---	---	---	---
4	10.1	8.5	12.6	9.9	13.4	12.3	---	---	13.1	12.7	---	---
5	10.7	8.8	11.1	9.1	14.3	13.1	---	---	13.0	12.5	---	---
6	11.0	9.1	10.9	9.2	14.3	13.3	---	---	13.0	12.3	16.6	14.9
7	11.2	9.3	11.5	9.8	14.0	12.7	---	---	12.7	12.1	15.2	12.4
8	11.0	9.5	12.6	10.6	13.3	12.7	---	---	12.7	12.1	14.5	12.3
9	11.3	9.3	12.4	10.3	13.5	12.7	---	---	13.6	12.2	13.9	12.2
10	11.5	9.2	12.3	10.5	14.1	12.7	---	---	13.6	12.9	13.0	11.1
11	11.3	9.1	12.2	10.4	14.6	13.6	---	---	13.7	12.8	12.8	11.7
12	10.5	8.8	10.6	9.9	14.5	13.6	---	---	12.8	11.3	16.2	12.6
13	11.0	8.8	11.8	10.3	14.7	13.5	---	---	11.8	10.8	15.5	12.9
14	10.7	9.8	11.0	9.6	15.1	14.1	---	---	---	---	13.5	10.3
15	11.3	9.9	12.1	10.4	14.8	13.7	---	---	---	---	13.9	10.5
16	12.0	10.3	12.0	10.7	14.6	13.8	---	---	---	---	15.6	10.4
17	12.2	10.6	11.4	10.5	15.3	14.0	---	---	---	---	10.7	10.1
18	12.4	10.7	12.0	10.8	14.7	13.8	---	---	---	---	10.2	9.6
19	12.3	10.4	13.0	11.7	14.9	14.6	---	---	---	---	9.8	9.5
20	12.9	10.3	12.7	11.7	14.9	13.6	---	---	---	---	9.5	9.0
21	13.0	10.2	13.2	12.0	14.6	13.6	---	---	---	---	9.3	8.8
22	12.6	9.1	13.0	12.0	15.1	13.7	---	---	---	---	9.6	8.9
23	10.5	8.9	12.6	11.6	14.9	13.9	---	---	---	---	9.9	8.6
24	12.7	10.3	12.8	11.5	14.8	12.9	---	---	---	---	9.6	8.7
25	12.4	9.8	13.6	12.5	14.8	13.7	---	---	---	---	11.0	9.5
26	10.1	9.2	14.2	12.4	---	---	---	---	---	---	12.2	10.6
27	12.2	9.7	13.8	12.7	---	---	12.7	12.1	---	---	12.7	11.4
28	12.0	10.3	14.6	12.7	---	---	12.8	12.6	---	---	13.0	11.2
29	12.6	10.7	14.9	10.5	---	---	12.7	12.5	---	---	11.2	10.4
30	13.0	10.6	15.1	13.2	---	---	12.9	12.5	---	---	10.5	9.8
31	12.5	10.3	---	---	---	---	12.7	12.4	---	---	10.0	9.7
MONTH	13.0	7.8	15.1	9.1	15.3	12.3	12.9	12.1	13.7	10.8	16.6	8.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.6	10.0	12.8	10.4	10.5	9.0	14.5	13.7	---	---	10.6	7.8
2	10.6	10.0	12.3	9.9	10.3	8.9	14.5	14.1	10.4	7.1	10.5	7.8
3	11.0	10.2	11.5	8.4	11.3	8.4	15.1	13.7	9.8	7.9	11.5	8.1
4	---	---	12.4	10.0	12.9	7.8	15.1	13.6	10.3	7.6	10.2	8.1
5	---	---	12.9	10.7	12.9	7.8	14.6	13.8	10.7	7.5	11.3	7.9
6	---	---	12.1	9.4	12.6	.7	15.0	14.0	11.4	7.7	11.2	7.7
7	---	---	11.1	8.6	11.3	7.4	15.1	13.7	12.1	7.2	11.5	7.7
8	---	---	10.5	7.8	10.6	7.3	15.3	13.2	11.0	7.2	12.6	8.7
9	---	---	9.8	7.2	9.7	6.8	15.0	13.	12.2	7.5	11.2	8.0
10	---	---	9.7	7.2	8.6	6.7	15.7	12.8	11.8	7.8	10.9	6.8
11	---	---	9.5	7.0	9.6	7.1	---	---	12.4	7.8	10.7	6.8
12	---	---	10.0	7.0	10.2	7.7	---	---	12.3	9.0	10.4	6.3
13	---	---	11.4	8.9	10.6	8.1	---	---	12.7	7.7	10.5	6.2
14	---	---	11.4	9.7	10.8	7.4	---	---	11.7	7.6	9.1	6.7
15	---	---	11.2	8.6	10.1	6.8	---	---	11.0	8.1	9.1	8.1
16	---	---	10.0	7.9	9.9	6.8	---	---	11.0	7.3	8.7	7.9
17	---	---	11.3	7.9	10.0	6.7	---	---	9.9	7.2	8.7	7.9
18	12.0	10.6	11.0	8.6	8.1	6.0	---	---	9.7	6.8	8.6	7.7
19	12.3	10.7	10.6	7.9	7.7	6.2	---	---	11.7	6.8	9.0	7.8
20	12.1	10.6	10.3	7.9	8.5	6.3	---	---	11.5	8.0	9.7	8.1
21	11.7	10.4	10.3	9.0	---	---	---	---	11.3	8.1	9.3	8.1
22	12.3	10.5	10.6	8.6	---	---	---	---	10.9	7.7	10.1	8.1
23	12.8	10.0	10.7	8.8	---	---	---	---	10.8	7.1	10.6	8.2
24	13.5	9.9	10.3	8.7	---	---	---	---	9.4	7.0	10.9	8.2
25	13.4	9.1	11.3	10.2	---	---	---	---	9.2	7.4	11.1	7.6
26	11.9	8.5	11.5	11.1	---	---	---	---	10.6	7.5	11.3	7.5
27	12.9	9.2	11.5	10.8	---	---	---	---	10.6	8.3	11.5	7.3
28	13.0	10.7	10.9	10.3	13.1	11.4	---	---	10.3	7.8	7.2	4.0
29	13.0	10.9	10.8	9.5	14.9	11.7	---	---	8.8	7.7	7.7	5.8
30	12.8	11.0	10.5	9.8	14.5	12.5	---	---	9.5	7.8	9.5	6.5
31	---	---	10.6	9.6	---	---	---	---	10.0	8.1	---	---
MONTH	13.5	8.5	12.9	7.0	14.9	6.0	15.7	12.8	12.7	6.8	12.6	4.0
YEAR	16.6	4.0										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04200500 BLACK RIVER AT ELYRIA, OH

LOCATION.--Lat 41°22'49", long 82°06'17", in T.6 N., R.17 W., Lorain County, Hydrologic Unit 04110001, on left bank in Cascade Park at Elyria, 0.8 mi (1.3 km) downstream from confluence of East and West Branches.

DRAINAGE AREA.--396 mi² (1,026 km²).

PERIOD OF RECORD.--October 1944 to current year. Records for May 1903 to July 1906 (published as "near Elyria") published in WSP 97, 129, and 205, are unreliable and should not be used.

REVISED RECORDS.--WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 620.83 ft (189.229 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Some regulation at low flow for industrial use. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--35 years, 322 ft³/s (9.119 m³/s), 11.04 in/yr (280 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,700 ft³/s (1,460 m³/s) July 6, 1969, gage height, 26.4 ft (8.05 m), (from flood mark), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of slope-area measurement of peak flow; no flow for part of Oct. 10, 1956 (result of temporary storage at dam upstream).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft³/s (90.6 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	2000	4790	136	10.20	3.109	Apr. 14	2300	3680	104	9.88	2.707
Mar. 5	0300	*10300	292	*15.19	4.630	May 27	0200	4740	134	10.15	3.094
Apr. 10	0200	3210	90.9	8.25	2.515						

Minimum daily discharge, 14 ft³/s (0.40 m³/s) Oct. 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	21	31	1020	111	729	790	94	301	191	89	137
2	15	23	28	2170	100	1350	817	80	346	209	252	100
3	22	23	124	1320	90	3270	1090	85	232	141	441	81
4	33	21	236	458	79	8000	1010	78	149	174	203	69
5	23	20	185	280	70	9060	2220	77	108	227	89	63
6	25	22	176	200	66	3680	1500	73	99	307	54	66
7	31	26	123	160	64	1320	752	69	67	155	39	217
8	28	23	193	130	62	893	476	61	63	80	36	92
9	19	23	530	110	60	711	1970	53	56	64	30	58
10	16	23	560	100	58	681	2770	55	49	67	88	41
11	14	21	314	96	56	652	1200	53	46	56	52	32
12	15	21	178	93	56	427	700	49	40	47	147	25
13	32	23	126	87	56	279	748	48	38	42	123	23
14	69	29	79	82	54	276	3180	70	33	37	74	831
15	49	25	61	78	54	279	2590	75	30	31	49	2450
16	32	25	57	74	54	232	998	58	26	41	37	1480
17	33	42	48	70	52	174	605	44	23	33	29	435
18	26	33	46	66	55	155	416	36	23	27	51	210
19	21	36	42	62	60	155	306	30	22	22	37	129
20	18	36	46	60	63	157	232	25	89	19	42	93
21	16	29	46	58	70	151	191	24	586	16	48	73
22	17	25	41	58	113	138	153	26	210	63	42	58
23	21	38	35	61	1380	131	135	25	92	72	44	45
24	17	29	32	108	4500	209	126	39	62	46	69	37
25	17	27	30	190	3920	578	116	393	41	42	105	37
26	31	23	28	190	1550	578	105	3180	30	60	106	35
27	21	32	26	180	809	368	113	4210	24	42	116	31
28	21	42	27	160	689	341	119	1910	30	32	161	56
29	18	45	28	140	---	1620	126	722	40	45	400	51
30	19	35	32	130	---	2150	111	410	98	33	413	49
31	19	---	82	121	---	1480	---	290	---	30	289	---
TOTAL	761	841	3590	8112	14351	40224	25655	12442	3053	2451	3765	7103
MEAN	24.5	28.0	116	262	513	1298	855	401	102	79.1	121	237
MAX	69	45	560	2170	4500	9060	3180	4210	586	307	441	2450
MIN	14	20	26	58	52	131	105	24	22	16	29	23
CFSM	.06	.07	.29	.66	1.30	3.28	2.16	1.01	.26	.20	.31	.60
IN.	.07	.08	.34	.76	1.35	3.78	2.41	1.17	.29	.23	.35	.67

CAL YR 1978 TOTAL 119787.1 MEAN 328 MAX 9020 MIN 5.3 CFSM .83 IN 11.25
WTR YR 1979 TOTAL 122348.0 MEAN 335 MAX 9060 MIN 14 CFSM .85 IN 11.49

04200550 BLACK RIVER BELOW ELYRIA, OH

LOCATION.--Lat 41°24'42", long 82°05'45", in T.6 N., R.17 W., Lorain County, Hydrologic Unit 04110001, at Ford Road bridge on north edge of Elyria, 0.7 mi (1.1 km) downstream from Elyria sewage disposal plant, and 5.2 mi (8.4 km) downstream from discharge station at Elyria.

DRAINAGE AREA.--412 mi² (1,067 km²).

PERIOD OF RECORD.--January 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1966 to current year.
pH: October 1976 to current year.
WATER TEMPERATURES: January 1966 to current year.
DISSOLVED OXYGEN: January 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station at Elyria (station 04200500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,900 micromhos Feb. 11, 1977; minimum, 117 micromhos Jan. 27, 1976.
pH: Maximum, 9.5 units Apr. 30, 1978; minimum, 6.0 units May 29, July 3, 1979.
WATER TEMPERATURES: Maximum, 33.0°C June 7, 1973; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L on many days during 1966, 1972, 1973, 1975, 1977; minimum, 0.0 mg/L June 3, 5, 6, July 3, 4, 1966, July 31, Aug. 1, 2, 22, 23, 1974, Aug. 27, 1977, Aug. 3, Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,360 micromhos July 24; minimum, 180 micromhos May 29.
pH: Maximum 8.9 units Nov. 2; minimum, 6.0 units May 29, July 3.
WATER TEMPERATURES: Maximum, 32.0°C July 16; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 14.8 mg/L Jan. 3; minimum recorded 0.7 mg/L May 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
AUG												
29...	1700	398	588	7.6	--	--	47	78	40	8.5	426	.58
29...	1800	395	588	7.7	--	--	34	82	40	8.6	424	.58
29...	1900	390	577	7.9	--	--	47	77	38	8.5	415	.56
29...	2000	387	563	7.9	--	--	41	77	36	8.6	420	.57
29...	2100	387	553	8.1	--	--	38	76	35	8.4	415	.56
29...	2200	387	554	8.0	--	--	38	76	35	8.5	437	.59
29...	2300	398	554	7.6	--	--	38	76	35	8.2	426	.58
29...	2359	393	540	8.0	--	--	42	76	34	8.2	415	.55
30...	0100	396	537	7.8	--	--	42	75	33	8.2	375	.51
30...	0200	401	538	7.7	--	--	43	76	33	8.2	479	.65
30...	0800	404	495	7.5	21.5	6.9	79	66	28	8.2	421	.57
SEP												
16...	0800	2070	315	7.5	--	--	47	45	15	8.7	216	.29
16...	0900	2040	318	7.7	--	--	39	48	16	10	224	.30
16...	1000	1990	321	7.7	--	--	41	48	16	8.8	217	.29
16...	1100	1970	326	7.7	--	--	43	51	16	8.9	218	.30
16...	1200	1850	331	7.6	--	--	36	53	17	9.3	219	.30
16...	1300	1790	333	7.7	--	--	36	50	17	9.1	227	.31
16...	1400	1720	341	7.7	--	--	33	51	17	9.9	232	.31
16...	1500	1650	344	7.7	--	--	44	52	18	10	232	.32
16...	1600	1570	341	7.8	--	--	44	51	17	9.0	225	.31
16...	1700	1500	346	7.6	--	--	45	51	17	9.9	240	.33
16...	1800	1420	348	7.5	--	--	40	49	17	8.3	244	.33
16...	1900	1350	353	7.6	--	--	40	52	17	9.5	244	.33
20...	1215	108	655	7.3	16.5	6.8	31	98	51	13	410	.56

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG												
29...	458	82	2.6	.00	2.0	2.0	4.7	21	.52	.32	.99	9.4
29...	453	80	2.6	.00	2.1	2.1	4.7	21	.53	.31	.95	9.5
29...	437	86	2.5	.00	2.3	2.2	4.8	21	.54	.31	.95	9.4
29...	439	87	2.5	.00	2.2	2.1	4.7	21	.53	.33	1.0	11
29...	433	88	2.3	.00	2.2	2.2	4.6	20	.53	.34	1.0	9.7
29...	456	85	2.3	.00	2.3	2.2	4.6	20	.51	.35	1.1	9.5
29...	449	81	2.1	.00	2.0	1.9	4.1	18	.50	.33	1.0	9.7
29...	440	80	2.0	.00	1.9	1.9	4.0	18	.48	.32	.99	10
30...	401	82	1.9	.00	1.9	1.8	3.8	17	.50	.31	.95	9.4
30...	519	82	1.9	.00	1.9	1.9	3.9	17	.49	.30	.92	9.9
30...	459	111	1.9	.00	2.2	2.1	4.1	18	.56	.27	.83	10
SEP												
16...	1210	180	2.1	.05	2.1	2.2	4.3	19	.38	.13	.40	10
16...	1230	161	2.0	.10	1.6	1.7	3.8	17	.37	.13	.40	10
16...	1160	134	2.0	.18	1.7	1.8	3.9	17	.36	.13	.40	10
16...	1160	140	2.1	.27	1.7	1.9	4.1	18	.36	.14	.43	10
16...	1090	127	2.0	.02	2.1	2.0	4.2	18	.35	.11	.34	10
16...	1100	117	2.0	.08	1.9	2.0	4.0	18	.35	.13	.40	10
16...	1080	115	2.0	.10	1.4	1.4	3.5	16	.34	.13	.40	10
16...	1030	114	2.1	.14	1.9	2.0	4.2	19	.36	.14	.43	10
16...	964	122	2.0	.09	2.1	2.1	4.2	19	.34	.13	.40	10
16...	970	91	2.1	.11	1.8	1.9	4.0	18	.33	.13	.40	10
16...	934	96	2.1	.00	2.0	2.0	4.1	18	.34	.14	.43	11
16...	888	109	2.5	.00	2.0	1.9	4.5	20	.33	.13	.40	10
20...	120	27	5.0	.08	1.5	1.6	6.7	30	.71	.55	1.7	10

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1110	726	---	---	1370	1110	752	465	1030	957	582	495
2	1340	1100	1570	1340	1290	1060	546	432	1060	948	546	420
3	1550	849	1820	1120	---	---	522	495	1110	954	414	261
4	1230	729	1490	1340	---	---	633	516	1070	924	249	204
5	1470	1090	---	---	834	747	771	615	1040	915	252	210
6	1280	885	---	---	894	768	774	672	1140	966	333	258
7	1190	873	---	---	1100	885	753	705	1180	984	405	336
8	1120	891	---	---	999	780	819	687	1150	921	441	405
9	1300	888	---	---	681	660	927	795	1260	1070	483	438
10	1230	1190	---	---	645	597	924	789	1220	1040	513	489
11	---	---	---	---	789	693	957	825	1190	1020	513	492
12	---	---	---	---	759	687	1150	918	1250	1040	567	507
13	---	---	---	---	864	723	1150	993	1440	1020	612	555
14	---	---	---	---	972	789	1330	1130	1250	1100	645	588
15	---	---	---	---	1080	852	1130	1050	1350	1130	642	597
16	---	---	1860	1530	1100	921	1090	975	1420	1150	669	600
17	---	---	1640	978	978	864	1430	969	1450	1190	708	645
18	---	---	---	---	1030	846	1420	1240	1360	1210	726	666
19	---	---	---	---	1180	948	1370	1160	1350	1130	732	657
20	---	---	---	---	1250	984	1270	1140	1660	1280	726	687
21	---	---	---	---	1110	960	1450	1190	2200	1500	762	705
22	---	---	---	---	1220	1010	1650	1330	2180	1660	798	717
23	---	---	1010	867	1350	1060	1750	1520	1620	360	825	726
24	---	---	1090	921	1070	906	1650	1390	315	261	837	699
25	---	---	1070	930	915	888	1370	1050	285	255	699	615
26	---	---	1150	954	1070	895	1040	924	354	288	723	597
27	---	---	1380	1010	1280	990	915	798	441	339	687	654
28	---	---	1370	1160	1430	1120	849	768	531	438	708	597
29	---	---	1400	1170	1610	1280	909	816	---	---	567	453
30	---	---	1360	1200	1620	1200	912	825	---	---	480	447
31	---	---	---	---	1290	840	1010	849	---	---	471	453
MONTH	1550	726	1860	867	1620	597	1750	432	2200	255	837	204

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	516	471	816	720	633	303	651	573	1120	546	633	609
2	537	510	831	735	636	591	656	630	627	552	609	507
3	513	495	906	717	624	591	720	660	642	474	---	---
4	576	483	855	735	705	591	780	624	546	495	---	---
5	471	396	915	771	798	678	648	633	612	525	861	654
6	441	423	846	771	873	738	693	633	720	552	936	672
7	486	444	795	720	930	759	756	693	894	663	723	615
8	543	483	933	789	933	771	782	753	975	732	768	648
9	522	378	978	837	996	822	855	750	1060	789	636	576
10	396	375	1020	837	939	799	864	801	---	---	747	557
11	438	384	993	863	915	753	837	735	---	---	912	657
12	474	435	1120	909	1040	831	858	759	708	588	1120	807
13	495	444	987	864	1100	921	851	783	657	504	1140	843
14	432	336	951	843	1090	897	852	750	720	660	969	384
15	---	---	896	831	1240	856	750	714	819	672	372	333
16	---	---	1020	922	1320	1020	855	639	936	777	393	342
17	---	---	1130	894	1230	945	843	744	1010	822	495	390
18	---	---	1180	948	1220	898	903	783	936	624	573	492
19	585	576	1170	930	1340	1040	950	813	747	669	660	543
20	624	561	1130	906	1400	543	948	840	792	657	690	591
21	651	591	1200	951	579	471	975	676	792	624	801	636
22	633	612	1250	981	600	468	936	519	960	780	840	702
23	684	603	1320	1020	732	588	774	582	978	807	723	651
24	738	657	1270	831	753	618	2350	702	1050	684	879	642
25	720	672	855	543	867	693	1850	678	786	657	1120	792
26	765	675	582	438	1040	756	855	741	681	645	1150	900
27	777	702	429	408	1130	979	1020	807	741	609	1190	930
28	789	708	455	414	1160	912	1020	873	834	738	1130	768
29	723	587	528	180	1220	735	897	786	720	570	861	759
30	762	579	585	528	960	555	933	777	564	504	849	723
31	---	---	702	576	---	---	1120	897	615	525	---	---
MONTH	789	336	1320	180	1400	303	2350	519	1120	474	1190	333
YEAR	2350	180										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.4	7.2	---	---	8.3	8.1	8.1	7.6	8.2	8.0	8.0	7.8
2	7.5	7.2	8.9	7.4	8.1	8.0	8.1	7.8	8.2	7.9	7.9	7.7
3	7.5	7.2	7.8	7.3	---	---	8.1	8.1	8.1	7.8	---	---
4	7.6	7.3	7.6	7.2	---	---	8.1	8.1	8.0	7.9	---	---
5	7.6	7.3	---	---	7.9	7.8	8.1	7.9	8.3	7.8	---	---
6	7.6	7.3	---	---	8.1	7.9	8.1	8.0	8.4	7.9	---	---
7	7.7	7.4	---	---	8.2	8.1	8.1	8.0	8.9	7.9	---	---
8	7.8	7.5	---	---	8.3	8.1	8.2	8.0	8.3	7.9	---	---
9	7.7	7.5	---	---	8.3	8.2	8.1	7.8	8.3	8.0	---	---
10	7.6	7.5	---	---	8.2	8.1	8.1	8.0	8.2	7.9	---	---
11	---	---	---	---	8.4	8.2	8.1	8.0	8.0	7.9	---	---
12	---	---	---	---	8.4	8.3	8.2	8.0	7.9	7.8	---	---
13	---	---	---	---	8.4	8.2	8.4	8.0	8.1	7.7	---	---
14	---	---	---	---	8.3	8.1	8.0	7.9	7.9	7.7	---	---
15	---	---	---	---	8.3	8.1	8.1	8.0	7.9	7.8	---	---
16	---	---	7.7	7.6	8.2	8.1	8.1	8.0	7.9	7.7	---	---
17	---	---	7.6	7.1	8.1	8.0	8.1	7.9	7.8	7.7	---	---
18	---	---	7.7	7.5	8.3	8.0	8.0	7.9	7.8	7.6	---	---
19	---	---	7.7	7.3	8.2	8.0	8.0	7.9	7.9	7.8	---	---
20	---	---	7.6	7.3	8.2	8.1	8.1	8.0	8.1	7.8	---	---
21	---	---	7.7	7.5	8.1	8.0	8.0	7.9	7.9	7.8	---	---
22	---	---	7.6	7.5	8.6	8.1	8.0	7.9	8.1	7.8	---	---
23	---	---	7.6	7.4	8.2	8.1	8.1	8.0	8.0	7.5	---	---
24	---	---	7.8	7.6	8.1	8.1	8.3	8.0	7.7	7.5	---	---
25	---	---	7.8	7.8	8.1	8.0	8.1	8.0	7.6	7.4	---	---
26	---	---	8.0	7.8	8.1	8.0	8.1	8.0	7.4	7.0	---	---
27	---	---	8.6	7.9	8.1	8.0	8.0	8.0	7.8	7.0	---	---
28	---	---	8.3	8.0	8.1	8.0	8.0	7.9	7.8	7.7	7.6	7.2
29	---	---	8.4	8.1	8.1	8.1	8.1	7.9	---	---	7.5	7.2
30	---	---	8.4	8.1	8.2	8.0	8.2	8.0	---	---	7.5	7.3
31	---	---	---	---	8.0	7.4	8.2	8.0	---	---	---	---
MONTH	7.8	7.2	8.9	7.1	8.6	7.4	8.4	7.6	8.9	7.0	8.0	7.2

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	7.3	8.8	8.3	7.4	6.9	7.4	7.4	7.8	7.3	8.1	7.9
2	7.6	7.1	8.7	8.4	7.6	7.2	7.5	6.1	7.6	7.1	7.9	7.4
3	7.7	7.6	8.6	8.1	7.6	7.1	7.5	6.0	7.7	7.5	---	---
4	7.7	7.4	8.4	7.8	7.6	7.3	7.6	7.4	7.6	7.4	---	---
5	7.5	7.2	8.6	7.9	7.5	7.4	7.7	7.6	7.6	7.4	7.9	7.4
6	7.6	7.5	8.7	8.0	7.5	7.3	7.8	7.7	7.6	7.3	8.1	7.7
7	7.7	7.6	8.5	8.0	7.9	7.2	7.9	7.7	7.5	7.3	8.2	7.7
8	7.7	7.4	8.4	7.7	8.2	7.4	7.9	7.7	7.6	7.3	8.2	8.0
9	7.4	7.2	8.1	7.5	8.1	7.4	7.7	7.3	7.5	7.4	8.1	7.9
10	7.5	7.2	7.7	7.2	8.0	7.5	7.7	7.3	7.4	7.3	8.0	7.9
11	7.4	7.3	7.8	7.2	7.9	7.6	7.7	7.3	7.6	7.2	7.9	7.7
12	7.6	7.2	7.5	7.2	7.8	7.5	7.8	7.3	7.9	7.5	8.1	7.5
13	7.5	7.3	7.5	7.2	7.6	7.4	7.5	7.3	7.8	7.6	7.9	7.7
14	7.4	7.2	7.9	7.2	7.9	7.3	7.8	7.3	7.7	7.6	8.3	7.5
15	---	---	7.8	7.2	7.7	7.5	7.7	7.2	7.6	7.4	8.2	8.0
16	---	---	7.8	7.4	7.8	7.3	8.1	7.3	7.6	7.3	8.2	8.2
17	---	---	7.9	7.4	7.6	7.3	8.0	7.4	7.6	7.4	8.2	7.9
18	---	---	7.9	7.3	7.5	7.3	8.0	7.5	7.5	7.3	8.1	7.9
19	8.1	7.7	7.8	7.4	7.6	7.3	7.9	7.3	7.6	7.3	8.5	8.0
20	7.9	7.5	7.7	7.3	7.8	7.2	7.8	7.3	7.6	7.2	8.2	8.1
21	7.9	7.6	7.6	7.2	7.6	7.0	7.5	7.3	7.9	6.9	8.1	7.9
22	8.0	7.6	7.6	7.2	7.4	7.3	7.5	7.1	7.9	7.4	8.1	8.0
23	8.2	7.5	7.6	7.2	7.5	7.4	7.5	7.0	7.9	7.3	8.1	8.0
24	8.3	7.7	7.5	7.1	7.5	7.5	7.5	7.2	7.5	7.3	8.1	8.0
25	8.6	7.8	7.5	7.0	7.5	7.5	7.5	7.3	7.7	7.2	8.1	7.8
26	8.5	8.1	7.1	6.8	7.5	7.4	8.0	7.2	7.6	7.4	8.1	7.8
27	8.5	7.8	7.2	6.9	7.5	7.3	8.1	7.4	7.6	7.2	8.0	7.5
28	8.6	7.9	7.2	6.9	7.5	7.3	8.2	7.5	7.5	7.0	7.9	7.5
29	8.7	8.1	7.5	6.0	7.5	7.2	8.5	7.8	7.6	7.2	7.9	7.5
30	8.8	8.1	7.3	7.2	7.6	6.0	8.2	7.6	8.0	7.3	8.1	7.5
31	---	---	7.3	7.0	---	---	8.1	7.5	8.1	7.9	---	---
MONTH	8.8	7.1	8.8	6.0	8.2	6.0	8.5	6.0	8.1	6.9	8.5	7.4
YEAR	8.9	6.0										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	17.5	---	---	7.5	3.5	---	---	1.5	.5	1.0	.0
2	19.0	16.0	15.0	10.5	8.0	6.0	.5	.0	2.0	.5	1.0	.0
3	20.0	15.5	15.5	10.5	---	---	.0	.0	2.0	.5	1.0	.0
4	18.5	16.0	13.5	11.0	---	---	.0	.0	1.5	.5	2.5	.5
5	18.5	15.5	---	---	4.5	3.0	.5	.0	2.0	.0	2.5	2.0
6	17.0	14.5	---	---	4.5	2.5	.5	.0	2.5	.0	2.5	2.0
7	16.0	13.5	---	---	---	---	.5	.0	2.5	1.0	3.5	1.5
8	15.0	12.5	---	---	---	---	.5	.0	2.5	.5	4.5	2.5
9	16.5	12.0	---	---	2.5	1.5	1.0	.0	2.5	.5	4.5	3.5
10	15.5	14.0	---	---	1.5	.5	1.0	.0	2.5	.5	5.0	3.5
11	---	---	---	---	2.0	.5	1.5	.0	3.0	.5	3.0	1.5
12	---	---	---	---	2.0	.5	2.0	.5	3.0	1.0	3.0	1.0
13	---	---	---	---	2.0	1.0	3.0	1.0	3.5	.5	5.0	2.0
14	---	---	---	---	2.5	.5	3.0	.0	3.0	1.0	4.5	2.5
15	---	---	---	---	4.0	1.0	.5	.0	3.0	1.5	2.5	1.5
16	---	---	13.0	12.0	3.5	1.0	1.5	.0	3.5	1.0	4.0	.5
17	---	---	12.5	10.5	4.0	1.5	2.0	.5	3.5	.5	6.0	1.5
18	---	---	11.0	9.5	4.0	1.0	1.5	.0	3.0	.5	7.5	4.0
19	---	---	11.0	9.0	3.5	1.5	2.0	.0	4.0	1.0	7.0	4.5
20	---	---	10.0	9.0	6.5	1.5	2.5	.0	4.5	1.0	9.0	5.0
21	---	---	9.5	7.5	4.0	2.5	1.5	1.0	4.5	2.0	10.5	6.0
22	---	---	10.5	7.5	4.0	1.0	2.0	.5	2.5	1.5	11.5	6.5
23	---	---	11.5	8.0	5.0	1.5	2.5	.5	13.0	1.5	11.5	9.0
24	---	---	9.5	6.0	4.0	1.5	2.5	.5	3.0	.5	10.0	8.5
25	---	---	8.5	5.5	3.0	1.0	1.0	.5	1.0	.0	8.5	6.0
26	---	---	9.0	6.5	2.5	.5	1.0	.5	7.5	.5	5.5	4.5
27	---	---	9.5	5.5	2.5	.5	1.0	.5	6.0	.0	6.0	3.5
28	---	---	7.0	5.0	2.5	.5	1.0	.5	1.5	.0	6.0	3.5
29	---	---	6.5	3.0	4.5	2.0	1.0	.5	---	---	7.0	6.0
30	---	---	7.0	5.0	5.0	2.5	1.5	.5	---	---	9.5	7.0
31	---	---	---	---	5.0	3.0	1.5	.5	---	---	9.5	9.0
MONTH	20.0	12.0	15.5	3.0	8.0	.5	3.0	.0	13.0	.0	11.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	8.0	16.0	10.0	19.0	16.0	20.5	10.0	29.0	26.0	26.0	22.0
2	9.5	8.0	17.5	10.5	20.0	17.5	19.5	19.0	27.0	25.0	24.5	23.0
3	9.0	7.5	15.5	14.0	23.0	18.5	21.0	10.0	26.0	24.5	---	---
4	8.0	6.5	14.5	12.0	25.0	19.5	22.0	18.5	28.0	24.5	---	---
5	6.0	5.5	15.5	10.0	23.5	21.0	22.5	18.0	28.5	24.5	26.5	18.5
6	5.0	4.0	18.5	11.5	25.0	20.5	22.5	18.5	29.0	24.5	27.0	23.5
7	5.0	3.0	21.5	13.5	25.0	22.0	24.0	19.0	29.5	23.5	24.5	22.0
8	5.0	4.0	24.5	16.5	26.0	22.5	25.0	19.5	28.5	26.5	21.5	19.0
9	5.0	3.5	26.0	19.5	27.0	23.5	23.0	21.5	27.5	25.0	22.0	17.5
10	4.5	3.0	25.0	21.0	29.5	25.0	26.5	21.5	27.5	26.0	23.0	18.0
11	5.0	3.5	27.5	21.5	25.5	21.5	27.5	22.5	25.5	23.0	24.0	20.5
12	8.5	5.0	24.5	20.0	25.5	20.5	28.0	24.0	25.5	21.0	25.0	19.0
13	10.0	8.5	20.5	18.0	25.5	19.0	26.5	25.0	24.5	20.5	24.5	21.5
14	10.5	9.0	22.5	16.5	26.0	19.5	29.0	25.0	24.5	21.5	23.0	18.5
15	---	---	22.0	17.5	28.5	22.0	31.5	26.5	22.0	20.0	18.5	17.5
16	---	---	21.5	15.5	28.0	23.5	32.0	26.5	24.0	18.0	18.0	16.0
17	---	---	22.0	15.0	28.5	23.5	29.5	25.5	21.5	19.0	18.5	16.0
18	---	---	23.5	16.0	25.5	21.5	29.0	23.5	21.5	18.0	19.5	17.0
19	12.5	10.5	24.5	17.5	26.5	19.5	28.5	22.0	25.5	20.5	19.5	17.0
20	14.0	9.0	23.5	20.0	28.0	21.0	29.0	22.5	23.5	21.0	19.0	15.0
21	15.0	10.0	22.5	19.5	23.0	21.5	28.5	24.0	27.0	21.0	18.5	16.5
22	13.5	12.0	22.5	16.5	26.0	21.5	27.5	24.5	26.0	21.5	18.0	16.5
23	17.0	11.0	20.0	15.0	23.0	20.5	29.0	23.5	26.0	23.0	18.5	14.5
24	16.0	13.0	18.5	15.0	24.0	19.0	29.0	25.5	26.5	23.5	19.0	14.0
25	18.5	14.5	14.5	11.5	24.5	17.5	28.0	26.0	24.5	21.5	20.5	15.0
26	17.5	16.0	11.5	10.5	25.5	18.5	28.0	25.5	22.5	21.0	20.5	16.0
27	15.5	14.0	11.5	10.0	27.0	20.5	29.5	24.0	22.5	20.5	20.5	16.0
28	14.0	12.5	13.5	11.5	27.0	22.0	27.5	26.5	24.0	21.0	19.5	18.5
29	12.5	11.5	15.5	10.5	24.0	22.0	30.5	24.5	23.0	21.5	21.0	18.0
30	14.0	10.5	15.5	14.0	23.0	21.0	29.0	24.0	22.0	21.5	21.0	17.5
31	---	---	16.5	14.5	---	---	30.5	26.5	25.0	22.0	---	---
MONTH	18.5	3.0	27.5	10.0	29.5	16.0	32.0	10.0	29.5	18.0	27.0	14.0
YEAR	32.0	.0										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.8	5.5	---	---	10.4	9.0	---	---	12.1	12.0	12.8	12.5
2	7.4	5.9	5.7	4.6	10.5	8.6	14.5	13.2	12.0	11.7	13.5	12.8
3	7.4	4.6	5.8	4.3	---	---	14.8	14.2	11.9	11.6	13.8	13.2
4	7.4	5.7	4.5	3.9	---	---	14.2	13.5	11.8	11.6	14.2	13.9
5	7.1	4.1	---	---	12.3	11.9	13.7	13.3	11.8	10.9	14.3	13.2
6	7.2	4.7	---	---	12.6	12.3	13.5	13.3	11.4	10.5	14.0	12.8
7	7.6	6.2	---	---	12.5	11.5	13.4	13.0	11.0	9.5	12.8	12.1
8	8.0	6.5	---	---	11.7	11.0	13.1	12.7	11.0	9.6	12.2	11.7
9	8.0	6.8	---	---	12.9	12.6	12.9	12.0	10.3	9.5	11.9	11.5
10	7.1	6.5	---	---	13.5	6.0	12.6	12.1	9.9	9.7	11.7	11.5
11	---	---	---	---	14.2	5.5	12.6	11.9	10.1	9.2	12.2	11.8
12	---	---	---	---	13.9	13.2	12.1	11.1	9.6	8.4	12.3	11.9
13	---	---	---	---	13.2	12.7	11.2	10.6	9.7	8.5	11.9	11.1
14	---	---	---	---	13.1	12.6	11.6	10.4	9.2	8.4	11.2	11.1
15	---	---	---	---	12.7	11.5	12.4	11.7	8.9	8.4	11.9	11.3
16	---	---	7.4	5.0	12.4	11.6	12.3	11.8	8.9	8.3	12.0	11.6
17	---	---	6.8	4.0	12.2	11.9	12.1	11.4	9.2	8.7	11.8	11.2
18	---	---	8.4	6.6	12.2	11.4	11.9	11.5	9.4	9.0	11.2	10.5
19	---	---	10.0	7.4	11.7	11.2	11.8	10.5	9.2	8.8	10.7	10.0
20	---	---	8.3	7.4	11.4	7.1	11.1	10.8	8.9	4.9	10.3	9.6
21	---	---	9.1	6.9	11.3	10.3	11.1	10.7	9.9	7.0	10.0	9.1
22	---	---	8.5	7.0	11.2	10.4	11.1	10.6	10.8	9.5	9.4	8.5
23	---	---	8.4	5.7	10.8	10.3	10.8	9.8	11.8	1.4	8.7	7.7
24	---	---	8.7	7.7	11.2	10.2	11.4	9.6	13.4	10.0	8.3	7.6
25	---	---	9.9	9.6	11.5	10.7	12.3	11.3	13.6	11.7	9.5	8.4
26	---	---	10.3	8.6	11.5	11.0	12.3	12.2	12.5	2.8	10.1	9.5
27	---	---	9.6	8.1	11.3	10.0	12.5	12.3	13.0	3.2	10.3	9.8
28	---	---	11.2	9.8	10.9	8.9	12.3	12.2	13.0	12.6	---	---
29	---	---	11.3	9.3	10.2	9.0	12.3	12.0	---	---	---	---
30	---	---	10.7	9.1	10.9	9.0	12.3	12.0	---	---	11.5	10.5
31	---	---	---	---	10.8	9.4	12.2	11.8	---	---	11.3	11.0
MONTH	8.0	4.1	11.3	3.9	14.2	5.5	14.8	9.6	13.6	1.4	14.3	7.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.2	11.0	14.4	8.2	8.2	6.0	6.9	---	6.5	2.1	6.1	5.6
2	11.2	10.9	13.6	8.3	8.2	7.6	7.2	6.7	6.3	4.9	5.8	4.7
3	11.5	11.2	10.6	7.3	7.8	7.2	7.1	6.3	6.8	5.8	---	---
4	11.7	11.2	11.4	7.3	7.3	6.4	7.2	6.3	6.5	5.6	---	---
5	12.3	11.8	12.9	9.2	6.8	5.8	7.4	6.7	5.7	4.8	6.4	4.5
6	12.4	12.0	12.5	8.2	6.3	4.9	7.5	6.9	7.1	4.5	6.1	3.0
7	12.5	11.7	10.8	7.3	7.5	5.1	7.5	6.7	4.7	3.8	5.7	3.5
8	11.9	11.4	9.7	5.0	8.4	5.1	7.4	6.2	---	---	6.1	3.4
9	12.9	11.4	7.9	4.0	7.2	4.5	6.1	5.4	---	---	6.6	5.9
10	13.2	12.7	5.3	2.6	---	---	6.6	5.0	---	---	6.4	5.4
11	12.8	12.1	5.4	1.4	7.0	4.6	6.6	4.9	---	---	6.3	4.5
12	12.1	10.9	4.7	.7	7.2	4.5	6.5	3.9	6.0	4.3	7.0	5.0
13	10.9	10.3	4.6	2.5	6.5	4.5	---	---	6.6	5.6	6.9	4.3
14	11.6	10.6	8.0	2.1	7.3	4.2	---	---	6.0	5.2	7.9	3.6
15	---	---	7.8	4.8	---	---	---	---	5.6	3.5	8.9	8.1
16	---	---	8.8	5.3	---	---	---	---	5.7	4.6	9.1	8.4
17	---	---	9.4	5.3	---	---	---	---	5.6	3.5	8.6	7.9
18	---	---	8.3	4.8	---	---	---	---	---	---	7.8	7.2
19	10.4	10.2	8.3	3.1	---	---	---	---	5.4	3.9	7.3	6.9
20	10.4	9.8	6.3	3.7	---	---	---	---	6.9	3.2	7.5	6.9
21	10.2	9.3	7.8	2.7	7.2	6.6	---	---	6.8	4.6	7.0	6.5
22	10.4	9.3	7.2	4.1	6.6	5.5	---	---	---	---	7.0	6.3
23	10.9	9.5	7.3	4.0	5.8	5.4	---	---	---	---	7.2	6.7
24	11.2	8.7	5.7	3.8	6.6	5.7	---	---	5.1	3.2	7.2	6.5
25	12.1	8.2	8.7	5.2	6.6	5.8	---	---	---	---	6.5	5.4
26	11.6	7.5	10.7	8.7	5.7	5.0	---	---	5.8	5.6	6.4	5.5
27	12.6	7.2	10.8	10.1	5.4	4.8	7.5	2.9	6.8	5.8	6.3	5.1
28	13.7	8.1	10.1	9.5	6.4	3.8	8.1	2.0	6.7	5.5	6.0	4.4
29	13.4	8.5	9.1	7.8	6.2	2.8	7.6	3.5	7.0	6.1	6.5	5.5
30	14.1	9.0	8.9	8.5	6.1	4.5	9.1	2.9	7.0	6.4	7.3	5.4
31	---	---	8.6	6.0	---	---	6.6	2.8	6.8	5.9	---	---
MONTH	14.1	7.2	14.4	.7	8.4	2.8	9.1	2.0	7.1	2.1	9.1	3.0
YEAR	14.8	.7										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04201500 ROCKY RIVER NEAR BEREA, OH

LOCATION.--Lat 41°24'24", long 81°53'14", in T.6 N., R.15 W., Cuyahoga County, Hydrologic Unit 04110001, on right bank at downstream side of Cedar Point Road Bridge in Rocky River Reservation, just downstream from confluence of East and West Branches, and 3.0 mi (4.8 km) northwest of Berea.

DRAINAGE AREA.--267 mi² (692 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1935, September 1943 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 1437: 1924, 1925(M), 1926, 1927(M), 1928-29, 1930-35(M), 1945. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 649.90 ft (198.089 m) National Geodetic Vertical Datum of 1929 (Cuyahoga County bench mark). Prior to Sept. 30, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except those for the winter period, which are fair. Some regulation at low flow by small reservoirs on East Branch. Water-quality data collected at this site 1964 to 1977.

AVERAGE DISCHARGE.--48 years, 261 ft³/s (7.392 m³/s), 13.28 in/yr (337 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s (606 m³/s) Jan. 22, 1959, gage height, 14.10 ft (4.298 m), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of contracted-opening measurement of peak flow; maximum gage height, 18.6 ft (5.67 m) June 29, 1924 (backwater caused by tornado); minimum daily discharge, 0.2 ft³/s (0.006 m³/s) Sept. 2, 1932, Aug. 22, 27, 30, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 20.9 ft (6.37 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,000 ft³/s (120 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 24	0600	5500	156	5.66	1.725	May 26	0800	5310	150	5.56	1.695
Mar. 4	1400	5580	158	5.70	1.737	Sept. 15	0100	*6080	172	*5.95	1.814

Minimum daily discharge, 26 ft³/s (0.74 m³/s) Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	38	70	2160	100	823	495	106	501	98	71	92
2	38	35	60	1980	96	2030	799	87	346	188	807	87
3	38	40	170	416	90	2580	957	92	185	121	160	78
4	91	36	320	227	82	5200	711	106	121	124	120	104
5	52	36	200	150	78	3360	1230	101	94	188	90	65
6	64	32	140	130	76	1080	679	77	98	83	76	56
7	91	41	108	120	72	626	427	68	85	55	62	201
8	65	36	323	110	70	488	309	61	68	44	45	154
9	60	35	1140	100	68	386	1830	61	75	222	42	81
10	47	37	379	100	68	457	1210	58	96	325	60	57
11	37	36	169	94	68	392	521	60	132	135	150	45
12	32	35	129	90	68	235	457	106	103	97	76	42
13	117	37	103	86	68	207	445	266	66	179	44	40
14	258	43	91	82	68	226	1330	155	51	149	38	3100
15	147	47	80	78	68	210	735	96	44	88	33	3590
16	83	50	77	76	68	153	451	81	38	53	29	461
17	60	69	76	72	68	138	335	61	37	43	26	209
18	50	86	72	66	70	135	257	55	38	39	70	146
19	44	71	68	64	70	135	203	51	38	33	96	110
20	43	54	64	62	72	129	173	48	58	30	54	89
21	40	43	60	62	86	116	150	60	597	29	52	78
22	36	38	58	62	220	106	138	66	243	39	340	71
23	37	56	56	78	1920	108	135	53	96	31	263	65
24	39	73	56	130	4510	341	113	108	60	44	311	54
25	37	60	56	240	1760	965	94	3090	44	35	376	47
26	66	54	54	400	1250	469	101	4960	37	33	145	49
27	101	62	54	297	831	335	194	2170	34	34	104	47
28	87	86	56	226	604	357	210	656	41	42	744	121
29	56	96	58	160	---	1710	147	363	64	59	667	155
30	43	80	63	130	---	1500	116	226	81	41	309	94
31	37	---	232	120	---	948	---	191	---	29	142	---
TOTAL	2066	1542	4642	8170	12669	25945	14952	13739	3571	2710	5602	9586
MEAN	66.6	51.4	150	264	452	837	498	443	119	87.4	181	320
MAX	258	96	1140	2160	4510	5200	1830	4960	597	325	807	3590
MIN	32	32	54	62	68	106	94	48	34	29	26	40
CFSM	.25	.19	.56	.99	1.69	3.14	1.87	1.66	.45	.33	.68	1.20
IN.	.29	.21	.65	1.14	1.77	3.61	2.08	1.91	.50	.38	.78	1.34

CAL YR 1978 TOTAL 97551 MEAN 267 MAX 7320 MIN 18 CFSM 1.00 IN 13.59
WTR YR 1979 TOTAL 105194 MEAN 288 MAX 5200 MIN 26 CFSM 1.08 IN 14.66

04201500 ROCKY RIVER NEAR BEREA, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--1969 to current year.

REMARKS.--Sediment sampling site at bridge 2,400 ft (732 m) downstream from discharge station.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
SEP 14...	1300	4420	1200	15000	35	52	67

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
SEP 14...	83	94	95	98	99	100

04201500 ROCKY RIVER NEAR BEREA, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7	1.3	3	.31	6	1.1	597	3960	5	1.4	35	78
2	17	1.7	5	.47	10	1.6	478	3060	6	1.6	263	1460
3	25	2.6	7	.76	15	6.9	100	112	6	1.5	235	1980
4	73	18	6	.58	20	17	48	29	6	1.3	850	11900
5	65	9.1	5	.49	23	12	20	8.1	7	1.5	465	4220
6	64	11	5	.43	30	11	17	6.0	8	1.6	185	539
7	61	15	5	.55	33	9.6	13	4.2	10	1.9	57	96
8	57	10	3	.29	90	155	9	2.7	11	2.1	16	21
9	50	8.1	2	.19	200	616	4	1.1	9	1.7	11	11
10	48	6.1	1	.10	85	87	3	.81	7	1.3	10	12
11	49	4.9	2	.19	40	18	2	.51	7	1.3	10	11
12	50	4.3	2	.19	17	5.9	2	.49	6	1.1	10	6.3
13	225	73	2	.20	15	4.2	5	1.2	6	1.1	10	5.6
14	240	171	3	.35	15	3.7	60	13	7	1.3	10	6.1
15	30	12	3	.38	14	3.0	18	3.8	8	1.5	10	5.7
16	16	3.6	3	.41	9	1.9	17	3.5	8	1.5	10	4.1
17	13	2.1	4	.75	6	1.2	12	2.3	7	1.3	10	3.7
18	10	1.4	4	.93	4	.78	9	1.7	6	1.1	10	3.6
19	9	1.1	5	.96	5	.92	10	1.7	7	1.3	11	4.0
20	9	1.0	6	.87	5	.86	9	1.5	11	2.1	11	3.8
21	8	.86	7	.81	5	.81	9	1.5	23	5.3	12	3.8
22	6	.58	8	.82	5	.78	8	1.3	48	29	11	3.1
23	5	.50	12	1.8	6	.91	8	1.7	536	3820	8	2.3
24	3	.32	14	2.8	6	.91	30	11	800	9740	150	262
25	5	.50	13	2.1	6	.91	95	62	210	998	385	1080
26	20	3.6	12	1.7	6	.87	18	19	35	118	50	63
27	48	13	10	1.7	7	1.0	6	4.8	12	27	23	21
28	15	3.5	9	2.1	7	1.1	6	3.7	13	21	62	85
29	6	.91	8	2.1	8	1.3	6	2.6	---	---	407	1870
30	4	.46	7	1.5	10	1.7	5	1.8	---	---	250	1010
31	2	.20	---	---	28	18	5	1.6	---	---	137	351
TOTAL	---	381.73	---	26.83	---	985.95	---	7324.61	---	14787.8	---	25122.1
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	48	64	16	4.6	102	138	30	7.9	30	9.7	38	9.4
2	71	153	16	3.8	50	47	60	30	458	956	80	19
3	100	258	16	4.0	22	11	21	6.9	220	95	35	7.4
4	156	389	16	4.6	15	4.9	50	17	43	14	21	5.9
5	190	631	25	6.8	11	2.8	92	42	34	8.3	19	3.3
6	56	103	15	3.1	9	2.4	37	8.3	31	6.4	19	2.9
7	31	36	12	2.2	8	1.8	30	4.5	29	4.9	28	15
8	33	28	14	2.3	19	3.5	14	1.7	21	2.6	26	11
9	445	2200	14	2.3	29	5.9	158	105	14	1.6	20	4.4
10	199	650	11	1.7	36	9.3	270	237	30	4.9	13	2.0
11	52	73	12	1.9	42	15	105	38	36	15	7	.85
12	40	49	57	21	40	11	41	11	20	4.1	8	.91
13	35	42	231	166	29	5.2	43	34	11	1.3	9	.97
14	316	1150	70	29	15	2.1	44	18	8	.82	1080	13000
15	100	198	18	4.7	13	1.5	17	4.0	6	.53	810	10000
16	36	44	12	2.6	10	1.0	15	2.1	5	.39	55	68
17	27	24	11	1.8	10	1.0	14	1.6	12	.34	27	15
18	21	15	12	1.8	25	2.6	12	1.3	48	9.1	27	10
19	15	8.2	15	2.1	27	2.8	10	.89	28	7.3	21	6.2
20	11	5.1	18	2.3	37	16	9	.73	10	1.5	11	2.6
21	8	3.2	22	3.6	190	306	7	.55	13	1.8	9	1.9
22	5	1.9	16	2.9	150	98	7	.74	25	23	7	1.3
23	3	1.1	16	2.3	45	12	26	2.2	106	75	7	1.2
24	3	.92	17	5.0	34	5.5	25	3.0	135	113	4	.58
25	3	.76	580	6020	22	2.6	17	1.6	100	102	6	.76
26	6	1.6	380	5090	14	1.4	16	1.4	45	18	12	1.6
27	6	3.1	210	1230	8	.73	15	1.4	28	7.9	29	3.7
28	7	4.0	72	128	10	1.1	12	1.4	208	441	58	19
29	13	5.2	22	22	12	2.1	10	1.6	155	279	17	7.1
30	15	4.7	14	8.5	20	4.4	10	1.1	80	67	9	2.3
31	---	---	10	5.2	---	---	10	.78	40	15	---	---
TOTAL	---	6146.78	---	12785.1	---	718.63	---	667.69	---	2286.98	---	23224.27

TOTAL LOAD FOR YEAR: 94459.47 TONS.

04201555 ROCKY RIVER ABOVE SEWAGE TREATMENT PLANT NEAR LAKEWOOD, OH

LOCATION.--Lat 41°28'10", long 81°49'54", Cuyahoga County, Hydrologic Unit 04110001, at bridge on Park Boulevard, in Rocky River Reservation, 3.0 mi (4.8 km) southwest of Lakewood, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--291 mi² (754 km²).

PERIOD OF RECORD.--October 1977 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
SEP												
15...	1200	6100	284	7.4	18.5	7.2	54	51	18	7.2	184	.25
15...	1700	3050	313	7.3	--	--	32	56	20	7.4	201	.27
15...	1900	2210	328	7.3	--	--	33	61	21	7.2	207	.28
15...	2030	1720	347	7.3	--	--	51	64	23	10	215	.29
16...	0830	720	423	7.5	--	--	38	81	31	10	261	.35
16...	1030	635	431	7.5	--	--	32	86	31	11	267	.36
16...	1300	605	441	7.5	18.0	8.7	22	81	32	12	269	.37
16...	1400	590	444	7.6	--	--	37	85	32	12	275	.38

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP												
15...	3030	400	.97	.11	2.2	2.3	3.3	15	.49	.08	.25	8.7
15...	1650	239	1.1	.01	2.2	2.2	3.4	15	.42	.09	.28	9.4
15...	1230	228	1.1	.15	2.1	2.2	3.4	15	.41	.11	.34	9.5
15...	1000	232	1.3	.03	2.4	2.4	3.8	17	.43	.11	.34	9.5
16...	506	115	1.3	.02	2.1	2.1	3.5	15	.33	.11	.34	9.0
16...	457	111	1.4	.05	1.9	2.0	3.4	15	.32	.13	.40	8.7
16...	439	96	1.3	.06	1.5	1.5	2.9	13	.30	.12	.37	8.7
16...	440	99	1.3	.10	1.5	1.5	2.9	13	.29	.13	.40	8.7

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

LOCATION.--Lat 41°20'26", long 81°10'01", in T.5 N., R.7 W., Portage County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on Winchell Road at Hiram Rapids, 0.6 mi (1.0 km) downstream from Black Brook.

DRAINAGE AREA.--151 mi² (391 km²).

PERIOD OF RECORD.--August 1927 to December 1935 (published as "near Hiram"), October 1944 to current year.

REVISED RECORDS.--WSP 1054: 1945. WSP 1437: 1931. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,087.46 ft (331.458 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Aug. 26, 1927, nonrecording gage and Aug. 26, 1927, to Dec. 31, 1935, water-stage recorder, at site 2.8 mi (4.5 km) downstream at different datum. Oct. 20, 1944, to Oct. 22, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods and those for periods of missing record which are poor. Flow regulated by East Branch Reservoir. usable capacity, 4,140 acre-ft (5.10 hm³), 14.6 mi (23.5 km) upstream since 1939 and by LaDue Reservoir, usable capacity, 18,110 acre-ft (22.3 hm³), 9.8 mi (15.8 km) upstream since 1961. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--43 years, 204 ft³/s (5.777 m³/s), 18.35 in/yr (466 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft³/s (104 m³/s) Jan. 23, 1959, gage height, 8.11 ft (2.472 m), from rating curve extended above 2,600 ft³/s (73.6 m³/s); minimum daily, 6.6 ft³/s (0.19 m³/s) Sept. 10, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) May 28, gage height, 4.22 ft (1.286 m); minimum daily, 25 ft³/s (0.71 m³/s) Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	55	96	269	110	500	965	217	468	95	74	111
2	72	51	87	658	100	550	924	186	365	113	140	91
3	68	48	87	920	95	600	914	158	279	125	162	80
4	83	61	126	750	90	700	909	146	208	125	158	79
5	94	78	149	600	85	900	874	135	155	121	137	72
6	94	82	165	430	80	1000	809	125	105	113	97	66
7	104	81	170	300	75	1100	714	113	87	102	59	60
8	111	74	167	200	75	1000	593	103	86	94	39	56
9	108	68	193	150	75	900	553	95	80	88	28	53
10	99	59	208	110	75	800	584	80	91	87	25	52
11	87	53	244	100	75	600	650	72	91	84	55	50
12	83	51	244	95	75	500	640	79	79	50	73	49
13	97	50	223	100	70	450	570	102	65	36	65	48
14	118	52	182	150	70	400	510	121	54	48	59	588
15	132	56	151	139	70	350	489	119	52	48	57	745
16	143	56	122	120	70	320	468	102	48	44	55	1000
17	146	60	105	100	65	290	453	83	38	82	52	1040
18	146	65	99	131	60	270	429	69	35	84	55	844
19	136	73	96	170	55	250	388	60	43	80	60	655
20	114	74	90	93	60	230	329	56	90	77	56	504
21	87	67	108	80	90	200	275	59	103	74	55	379
22	67	62	124	75	150	190	229	59	113	75	56	275
23	56	59	136	75	300	190	194	57	107	103	57	189
24	50	62	140	78	450	280	170	61	103	113	62	109
25	50	70	128	99	550	340	148	267	100	95	82	55
26	54	73	112	117	600	320	142	588	97	90	98	37
27	68	69	100	128	500	300	175	1030	94	87	97	31
28	79	80	99	132	480	400	203	1170	90	84	103	38
29	78	99	102	130	---	570	229	981	88	84	133	90
30	69	102	69	124	---	750	229	766	91	80	137	102
31	61	---	90	117	---	970	---	598	---	78	127	---
TOTAL	2819	1990	4212	6740	4650	16210	14759	7857	3505	2659	2513	7548
MEAN	90.9	66.3	136	217	166	523	492	253	117	85.8	81.1	252
MAX	146	102	244	920	600	1100	965	1170	468	125	162	1040
MIN	50	48	69	75	55	180	142	56	35	36	25	31
MEAN+	91.0	66.0	137	219	167	524	492	254	116	84.5	81.0	254
CFSM+	60	44	91	1.45	1.11	3.47	3.26	1.68	77	56	54	1.68
IN.+	69	49	1.04	1.67	1.15	3.99	3.63	1.93	86	64	62	1.87

CAL YR 1978 TOTAL 76231 MEAN 209 MAX 1850 MIN 25 MEAN+ 209 CFSM+ 1.38 IN.+ 18.75
WTR YR 1979 TOTAL 75462 MEAN 207 MAX 1170 MIN 25 MEAN+ 207 CFSM+ 1.37 IN.+ 18.57

+ Adjusted for change of contents of East Branch and LaDue Reservoirs.

Note.--Missing gage-height record Feb. 9 to Mar. 29.

04205700 LITTLE CUYAHOGA RIVER BELOW OHIO CANAL, AT AKRON, OH

LOCATION.--Lat 41°05'40", long 81°31'18", Summit County, Hydrologic Unit 04110002, on right bank 900 ft (274 m) downstream from Ohio Canal and 1.9 mi (3.1 km) upstream from mouth.

DRAINAGE AREA.--59.2 mi^2 (153 km^2).

PERIOD OF RECORD.--October 1973 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 790.64 ft (240.987 m) National Geodetic Vertical Datum of 1929, (levels by the City of Akron).

REMARKS.--Records good. Flow regulated by Mogadore Reservoir 9.7 mi (15.6 km) upstream, usable capacity, 6,540 acre-ft (8.06 hm^3), Wingfoot Lake 12.4 mi (20.0 km) upstream and Springfield Lake 8.8 mi (14.2 km) upstream. Water quality data collected at this site 1973 to 1977.

AVERAGE DISCHARGE.--6 years, 91.5 ft^3 (2.591 m^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,040 ft^3/s (114 m^3/s) Sept. 13, 1979, gage height, 6.52 ft (1.987 m) on basis of slope-area measurement at gage height 6.52 ft (1.987 m); maximum gage height, 7.51 ft (2.289 m) July 11, 1976; minimum daily, 17 ft^3/s (0.48 m^3/s m) Sept. 26, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.040 ft^3/s (114 m^3/s) Sept. 13, gage height, 6.52 ft (1.987 m), from rating curve extended as explained above; minimum daily, 19 ft^3/s (0.54 m^3/s) Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	46	21	270	45	194	106	98	117	89	97	39
2	60	38	19	175	39	214	302	96	108	96	90	39
3	87	36	128	110	40	203	213	105	92	77	47	53
4	136	34	185	97	48	253	235	99	88	168	39	45
5	84	33	65	86	48	216	189	89	112	87	66	40
6	72	32	51	72	40	187	160	81	91	75	44	62
7	59	32	60	54	33	158	129	77	81	69	33	55
8	66	27	210	52	34	132	124	70	103	68	40	48
9	56	24	207	47	33	123	240	68	82	102	36	45
10	62	32	123	45	32	124	165	67	131	80	85	47
11	61	33	105	43	31	112	142	63	114	75	101	56
12	190	31	100	42	34	102	200	74	91	59	45	68
13	282	24	67	48	34	101	152	67	88	63	33	205
14	182	37	54	102	32	103	197	59	85	80	33	2000
15	121	36	51	52	33	79	150	56	66	70	33	680
16	117	31	45	44	31	79	137	54	57	74	33	440
17	89	72	46	51	28	78	123	52	56	59	38	300
18	66	44	43	50	28	77	111	51	56	43	73	258
19	66	32	43	37	31	78	108	48	56	36	49	224
20	73	26	57	44	32	75	101	51	73	34	51	196
21	83	21	70	69	70	71	105	83	159	34	120	190
22	80	21	51	46	74	66	106	73	66	32	43	160
23	83	51	45	43	255	76	100	59	59	77	93	140
24	84	38	44	119	230	169	94	159	55	94	69	120
25	84	31	49	98	276	134	94	426	54	52	54	100
26	148	29	43	60	276	101	113	256	52	36	60	90
27	90	76	41	45	160	85	142	153	50	32	66	80
28	80	51	38	55	161	95	114	131	61	149	171	210
29	76	36	31	52	---	135	106	129	77	65	169	170
30	53	30	51	54	---	139	104	109	96	42	82	120
31	45	---	144	55	---	108	---	114	---	37	46	---
TOTAL	2940	1084	2287	2217	2208	3867	4362	3117	2476	2154	2039	6270
MEAN	94.8	36.1	73.8	71.5	78.9	125	145	101	82.5	69.5	65.8	209
MAX	282	76	210	270	276	253	302	426	159	168	171	2000
MIN	45	21	19	37	28	66	94	48	50	32	33	39

CAL YR 1978 TOTAL 30906 MEAN 84.7 MAX 594 MIN 17
WTR YR 1979 TOTAL 35021 MEAN 95.9 MAX 2000 MIN 19

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH

LOCATION.--Lat 41°08'08", long 81°32'50", Summit County, Hydrologic Unit 04110002, on right bank 230 ft (70 m) upstream from North Portage Path bridge at Old Portage, 1.2 mi (1.9 km) downstream from Little Cuyahoga River, and 4 mi (6 km) northwest of Akron City Hall.

DRAINAGE AREA.--404 mi² (1,046 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 1307: 1924(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 740.11 ft (225.586 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Dec. 21, 1923, nonrecording gage at same site and datum.

REMARKS.--Records fair. Natural flow of stream affected by diversions, storage reservoirs and power plants. At Lake Rockwell, 17.7 mi (28.5 km) upstream from gage, an average of 76 ft³/s (2.15 m³/s) was diverted for municipal supply of city of Akron. Sewage from city enters river 2.9 mi (4.7 km) downstream from station. Some diversion from the Tuscarawas drainage into this basin at Portage Lakes (see REMARKS for station 03116000 in volume 1 of this report).

AVERAGE DISCHARGE.--54 years, 421 ft³/s (11.92 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Jan. 21, 1959, gage height, 11.54 ft (3.517 m), from rating curve extended above 3,900 ft³/s (110 m³/s) on basis of contracted-opening estimate at gage height 11.54 ft (3.517 m), at site with drainage area of 488 mi² (1,264 km²) adjusted to gaging station by drainage-area relation; maximum gage height, 13.29 ft (4.051 m) Sept. 14, 1979; minimum daily, 26 ft³/s (0.736 m³/s) Sept. 2, 1945, July 5, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,230 ft³/s (176 m³/s) Sept. 14, gage height, 13.29 ft (4.051 m); minimum daily, 89 ft³/s (2.52 m³/s) July 21, Aug. 16, 17.

REVISIONS.--The maximum discharges for the water years 1974 and 1976 have been revised to 4,350 ft³/s (123 m³/s) April 2, 1974, gage height, 10.62 ft (3.517 m) and 5,460 ft³/s (155 m³/s); July 11, 1976, gage height 12.28 ft (3.743 m), superceding figures published in reports for 1974 and 1976.

DISCHARGE, STREAM (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	157	159	996	313	1400	1300	446	922	255	204	238
2	148	148	150	1260	271	1510	1920	425	737	280	336	211
3	175	141	359	1050	255	1550	2090	402	587	250	285	195
4	290	137	634	1030	259	2070	1970	377	489	399	227	159
5	206	135	479	1110	201	2520	1890	347	449	300	234	149
6	204	128	431	1050	202	2700	1690	323	366	238	193	153
7	350	137	434	945	189	2930	1420	297	295	208	153	188
8	359	135	735	534	191	2780	1240	277	302	188	120	141
9	323	128	1010	444	200	2310	1440	250	267	250	101	125
10	317	135	816	313	211	1800	1370	229	341	231	186	118
11	308	130	637	271	205	1420	1170	217	408	241	236	123
12	483	117	630	253	210	1150	1290	224	331	159	139	135
13	725	113	574	269	210	984	1230	250	280	153	103	222
14	567	122	476	408	203	894	1230	245	241	159	96	5040
15	467	119	392	316	204	769	1130	241	195	143	93	4260
16	434	107	329	284	204	685	1020	234	165	149	89	3010
17	389	175	275	306	194	630	926	215	169	127	89	2540
18	335	161	240	313	159	590	820	191	151	105	149	2130
19	305	146	208	275	159	542	744	159	125	96	116	1620
20	290	135	208	271	198	495	651	161	176	93	116	1240
21	272	124	275	302	252	446	594	199	349	89	238	988
22	235	113	262	262	321	408	545	176	169	94	208	787
23	223	152	257	234	747	377	523	167	153	145	282	644
24	199	139	257	365	1120	561	507	318	186	195	236	535
25	177	130	287	420	1450	737	405	1200	180	139	197	452
26	297	119	225	359	1560	692	425	1190	159	123	188	402
27	247	196	194	336	1310	664	392	1140	149	118	229	371
28	235	208	164	365	1260	734	325	1360	165	302	341	507
29	232	177	141	381	---	922	318	1560	188	220	479	436
30	201	166	170	364	---	1100	395	1390	231	161	341	380
31	173	---	362	350	---	1170	---	1140	---	133	272	---
TOTAL	9406	4230	11770	15437	12264	37540	30950	15360	8925	5743	6276	27507
MEAN	303	141	380	498	438	1211	1032	495	298	185	202	917
MAX	725	208	1010	1260	1560	2930	2090	1560	922	399	479	5040
MIN	148	107	141	234	159	377	318	161	125	89	89	118

CAL YR 1978 TOTAL 168877 MEAN 463 MAX 2480 MIN 91
WTR YR 1979 TOTAL 185408 MEAN 508 MAX 5040 MIN 89

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to 1967, 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1970 to current year.
pH: October 1970 to current year.
WATER TEMPERATURES: October 1970 to current year.
DISSOLVED OXYGEN: October 1970 to current year.
SUSPENDED SEDIMENT DISCHARGE: March 1972 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos Aug. 4, 1977; minimum, 120 micromhos July 20, 1973.
pH: Maximum, 11.4 units Nov. 8, 1974; minimum, 6.2 units July 3, 1973.
WATER TEMPERATURES: Maximum, 34.5°C July 18, 1977; minimum, 0.0°C Jan. 16, 31, Dec. 17, 18, 1972, Jan. 8, 1973, Dec. 10-12, 25-28, 1977, Jan. 3, 9, 10, 16, 22, 23, 26-28, Feb. 6, 19, 20, 1978.
DISSOLVED OXYGEN: Maximum, 15.3 mg/L Feb. 19, 1979; minimum, 0.0 mg/L July 24, 29, 31, Aug. 1, 3-6, 1977.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,060 mg/L July 14, 1978; minimum daily mean, 1 mg/L Sept. 10, 1973, July 31, Aug. 1, 2, 1978.
SEDIMENT LOADS: Maximum daily, 9,340 tons (8,470 tonnes) Sept. 14, 1979; minimum daily, 0.15 ton (0.14 tonne) Sept. 10, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,740 micromhos Oct. 3; minimum, 225 micromhos Jan. 23.
PH: Maximum, 9.0 units May 7; minimum, 7.2 units June 5.
WATER TEMPERATURES: Maximum, 33.5°C July 16; minimum, 1.0°C, Feb. 5, 25, 27, Mar. 7.
DISSOLVED OXYGEN: Maximum, 15.3 mg/L Feb. 19; minimum, 1.8 mg/L, June 22.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 650 mg/L Sept. 14; minimum daily mean 3 mg/L many days during the year.
SEDIMENT LOADS: Maximum daily, 9,340 tons (8,470 tonnes) Sept. 14; minimum daily, 0.72 ton (0.65 tonne) July 21, Aug. 1, 2.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
SEP 14...	1130	5900	942	15000	22	32	44

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
SEP 14...	62	81	90	94	97	99	100

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1230	495	717	593	744	735	720	618	777	699	561	519
2	1390	495	729	711	741	726	609	501	729	694	561	504
3	1740	561	750	732	724	507	528	495	723	693	504	483
4	1460	612	756	738	651	555	498	474	792	693	486	441
5	1380	606	768	750	605	576	477	453	792	747	438	411
6	807	729	763	755	592	567	477	455	768	684	411	363
7	717	705	904	760	627	573	477	435	795	678	360	324
8	705	527	742	765	603	501	456	435	801	747	327	312
9	648	576	764	759	582	531	495	450	783	750	324	315
10	624	582	742	769	552	531	510	480	765	738	348	327
11	630	569	748	774	555	540	557	498	753	729	359	348
12	627	425	789	774	570	549	591	552	771	717	387	353
13	759	483	777	756	561	504	1050	564	777	723	402	387
14	777	564	795	723	528	516	1210	813	741	717	426	395
15	748	747	816	774	543	528	801	759	819	717	438	399
16	882	518	813	763	567	546	774	750	786	741	456	435
17	565	503	748	518	594	567	1010	725	765	726	455	447
18	612	576	768	581	609	588	945	744	780	723	471	459
19	616	597	763	755	615	600	739	593	1040	732	483	465
20	603	512	740	735	723	612	891	593	1220	816	495	477
21	684	560	741	735	654	645	1200	501	1730	897	504	485
22	696	575	744	735	666	654	1040	909	1660	1150	1170	504
23	711	564	762	581	666	645	990	225	1320	1040	591	507
24	732	711	765	714	663	639	1390	935	1040	723	591	569
25	---	---	783	762	774	651	1090	987	714	579	573	534
26	---	---	768	762	735	702	1020	905	---	---	594	529
27	729	545	960	759	717	678	905	765	762	546	579	519
28	732	714	766	753	714	687	855	755	633	555	519	485
29	735	717	766	759	714	657	822	744	---	---	510	483
30	735	584	765	741	939	663	753	735	---	---	489	455
31	714	584	---	---	912	636	771	720	---	---	459	429
MONTH	1740	425	960	518	939	501	1390	225	1730	546	1170	312

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	432	417	636	591	490	417	759	747	771	420	612	579
2	444	414	662	565	495	447	750	702	702	531	639	605
3	414	378	564	552	459	450	747	717	672	624	651	551
4	432	387	594	550	519	459	739	447	645	621	633	609
5	405	363	598	558	528	495	690	548	702	546	708	697
6	378	365	594	564	---	---	594	557	648	609	777	570
7	384	372	591	564	---	---	708	572	660	609	705	599
8	408	372	600	575	592	492	714	587	753	660	732	690
9	417	393	618	594	597	567	723	492	774	717	755	714
10	402	375	633	505	792	489	726	455	762	498	796	717
11	408	395	551	524	600	554	690	588	723	558	882	759
12	426	387	681	500	624	585	696	565	759	684	885	840
13	423	396	675	521	627	600	741	521	756	693	858	397
14	447	393	646	563	648	618	714	521	810	744	---	---
15	435	417	672	566	678	630	759	720	822	780	---	---
16	453	429	---	---	705	663	798	753	852	801	333	288
17	477	447	---	---	714	691	795	759	976	810	288	273
18	504	465	---	---	768	714	792	747	985	723	312	288
19	543	453	---	---	831	762	804	752	982	[illegible]	339	312
20	564	459	---	---	816	723	804	777	1050	645	375	342
21	486	462	---	---	921	513	840	783	965	471	393	369
22	504	483	---	---	1190	789	895	795	795	714	414	397
23	519	492	753	741	816	774	822	654	759	522	453	417
24	507	489	762	504	783	756	819	699	702	591	486	441
25	519	492	570	402	786	771	843	507	738	645	477	462
26	543	519	537	465	798	762	837	501	768	711	504	474
27	594	513	468	441	795	783	828	504	720	681	531	501
28	600	585	447	423	---	---	813	408	849	453	528	441
29	630	594	420	396	---	---	771	726	708	504	558	522
30	636	512	405	387	---	---	759	717	723	615	549	529
31	---	---	432	402	---	---	759	702	627	567	---	---
MONTH	636	363	762	387	1190	417	895	408	1050	420	885	273
YEAR	1740	225										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.1	7.8	7.9	7.6	8.0	7.8	8.0	7.8	8.1	7.9	8.0	7.8
2	8.0	7.8	7.9	7.6	8.0	7.8	7.9	7.9	8.2	7.9	7.9	7.8
3	7.9	7.4	7.9	7.6	7.9	7.7	7.9	7.8	8.2	7.8	7.8	7.5
4	7.8	7.6	8.0	7.6	8.0	7.8	8.0	7.9	8.3	7.8	7.7	7.5
5	7.9	7.6	8.1	7.6	8.0	7.9	7.9	7.8	8.3	7.9	7.8	7.7
6	7.8	7.7	8.2	7.6	8.0	7.9	7.8	7.8	8.3	7.8	7.7	7.5
7	7.8	7.6	7.9	7.7	8.0	7.9	7.8	7.7	8.2	7.8	7.8	7.5
8	7.9	7.7	8.1	7.7	7.9	7.8	7.8	7.7	8.5	7.7	7.6	7.5
9	7.9	7.8	8.2	7.7	8.0	7.8	7.9	7.7	8.3	7.7	7.7	7.5
10	7.9	7.8	8.2	7.6	8.0	8.0	7.8	7.7	8.5	7.9	7.8	7.7
11	7.9	7.7	8.2	7.6	8.0	7.9	7.9	7.6	8.5	7.9	7.8	7.8
12	7.8	7.6	7.8	7.6	8.0	7.7	7.8	7.8	8.5	7.8	8.0	7.8
13	7.8	7.6	8.0	7.6	7.9	7.7	7.9	7.8	8.6	7.9	7.8	7.7
14	7.8	7.7	7.7	7.5	7.8	7.7	7.9	7.8	8.6	7.8	7.9	7.8
15	7.8	7.7	7.8	7.6	7.8	7.7	8.1	7.9	8.4	7.8	8.0	7.9
16	7.8	7.7	7.9	7.6	7.8	7.7	7.9	7.8	8.7	7.8	8.0	7.8
17	7.8	7.7	7.8	7.5	7.8	7.7	7.9	7.8	8.7	7.9	7.9	7.8
18	7.9	7.8	7.8	7.7	7.8	7.7	8.0	7.9	8.7	7.8	7.9	7.8
19	7.9	7.8	7.9	7.7	7.8	7.7	8.0	7.8	8.8	7.8	8.1	7.8
20	7.9	7.8	7.9	7.7	7.9	7.5	7.9	7.8	8.4	7.5	8.1	7.8
21	7.8	7.7	7.9	7.7	7.8	7.6	7.9	7.8	7.6	7.5	8.0	7.9
22	7.8	7.7	7.9	7.7	7.8	7.7	8.1	7.9	8.4	7.5	8.0	7.5
23	7.9	7.7	7.8	7.7	7.8	7.7	8.0	7.7	7.8	7.5	8.0	7.5
24	7.9	7.8	7.9	7.7	7.8	7.7	7.8	7.8	7.6	7.6	7.8	7.5
25	---	---	7.9	7.6	7.9	7.7	8.0	7.8	7.6	7.6	7.9	7.8
26	---	---	8.0	7.8	7.8	7.7	7.9	7.8	---	---	8.2	7.8
27	7.8	7.7	8.0	7.7	8.0	7.7	7.9	7.8	7.9	7.7	8.0	7.8
28	7.9	7.7	8.0	7.6	7.9	7.8	8.0	7.9	7.9	7.8	8.0	7.7
29	7.9	7.7	8.0	7.8	7.9	7.7	8.0	7.9	---	---	7.8	7.7
30	7.8	7.6	8.0	7.8	7.8	7.7	8.1	7.9	---	---	7.9	7.7
31	7.8	7.6	---	---	7.9	7.7	8.1	7.9	---	---	7.8	7.7
MONTH	8.1	7.4	8.2	7.5	8.0	7.5	8.1	7.6	8.8	7.5	8.2	7.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.7	---	---	7.7	7.6	---	---	8.2	7.6	8.4	8.2
2	7.8	7.7	8.9	7.9	7.7	7.6	8.0	7.8	8.1	7.6	8.5	8.2
3	7.9	7.7	8.3	7.9	7.7	7.5	8.1	7.9	8.1	7.7	8.5	8.1
4	7.9	7.7	8.5	7.9	7.8	7.6	7.9	7.8	8.1	7.9	8.2	8.1
5	7.8	7.5	8.8	7.9	7.9	7.2	8.1	7.9	8.2	7.7	8.1	7.5
6	7.7	7.5	8.9	7.8	---	---	8.1	7.9	8.2	7.9	7.9	7.4
7	7.5	7.5	9.0	7.8	---	---	8.2	7.9	8.2	7.9	8.0	7.5
8	7.5	7.4	8.9	7.7	7.8	7.5	8.3	7.9	8.2	7.8	8.0	7.7
9	7.8	7.4	8.9	7.7	7.9	7.5	7.9	7.6	8.2	8.0	8.0	7.8
10	7.7	7.4	8.8	7.6	7.9	7.4	8.2	7.6	8.2	7.8	8.0	7.7
11	7.7	7.5	8.7	7.6	7.9	7.6	8.1	7.8	8.1	7.9	8.0	7.5
12	7.8	7.4	8.5	7.4	7.9	7.7	8.2	7.8	8.2	8.0	8.1	7.7
13	7.8	7.5	---	---	8.1	7.7	8.1	7.5	8.2	8.0	8.1	7.5
14	7.7	7.5	---	---	8.1	7.7	8.0	7.6	8.1	7.9	---	---
15	7.7	7.5	8.0	7.8	8.1	7.7	8.2	7.7	8.3	8.1	---	---
16	7.8	7.5	---	---	8.1	7.6	8.3	7.8	8.3	8.1	---	---
17	7.9	7.5	---	---	8.2	7.6	8.4	7.8	8.4	8.0	---	---
18	7.9	7.5	---	---	8.1	7.6	8.4	7.8	8.3	8.0	---	---
19	8.0	7.5	---	---	8.1	7.6	8.4	7.8	8.3	8.0	---	---
20	8.4	7.7	---	---	8.2	7.6	---	---	8.3	8.0	---	---
21	8.5	7.7	---	---	7.8	7.5	8.6	7.8	8.2	7.9	---	---
22	8.5	7.7	---	---	7.5	7.4	8.5	7.7	8.3	8.1	---	---
23	8.8	7.7	8.2	7.8	---	---	8.5	7.4	8.2	7.9	---	---
24	8.7	7.6	8.1	7.6	---	---	8.1	7.6	8.1	8.0	---	---
25	8.8	7.6	8.1	7.8	---	---	8.1	7.8	8.3	8.0	---	---
26	8.3	7.7	---	---	---	---	8.1	7.8	8.3	8.1	---	---
27	8.1	7.6	---	---	---	---	8.2	7.9	8.3	8.1	---	---
28	---	---	---	---	---	---	8.0	7.7	8.1	7.9	---	---
29	---	---	---	---	---	---	8.0	7.9	8.3	7.8	---	---
30	---	---	7.7	7.6	---	---	8.1	7.9	8.3	8.2	---	---
31	---	---	7.7	7.6	---	---	8.1	7.9	8.4	8.2	---	---
MONTH	8.8	7.4	9.0	7.4	8.2	7.2	8.6	7.4	8.4	7.6	8.5	7.4
YEAR	9.0	7.2										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	20.5	16.0	13.0	10.5	9.0	5.0	4.0	4.0	3.0	2.5	2.5
2	21.0	19.0	15.5	12.5	10.0	9.5	4.0	2.5	5.5	3.0	3.0	2.0
3	22.0	19.0	16.5	12.5	10.5	8.0	2.5	2.0	6.0	4.0	4.0	1.5
4	21.5	20.0	17.0	13.0	10.5	8.5	2.5	2.5	5.5	2.5	4.0	3.0
5	21.5	19.5	16.5	13.0	9.0	8.0	2.5	2.5	3.0	1.0	4.0	3.0
6	19.5	19.0	16.5	14.0	8.5	7.5	3.0	2.5	5.0	1.5	3.0	1.5
7	20.5	17.5	14.5	13.5	9.0	8.0	3.0	2.5	5.5	4.0	2.5	1.0
8	17.5	15.5	15.0	12.0	9.0	7.5	3.0	2.5	6.5	4.0	3.0	1.5
9	16.5	15.0	15.5	12.5	7.5	6.0	3.5	2.5	4.5	3.0	3.5	2.5
10	18.0	15.0	15.5	13.5	6.0	4.5	3.5	3.0	4.5	3.0	4.0	3.5
11	19.0	15.5	17.0	14.0	4.0	3.5	3.5	3.0	5.5	2.5	3.5	2.0
12	18.5	16.5	16.0	14.5	4.0	3.5	5.0	3.0	5.5	4.0	3.5	2.0
13	16.5	15.0	16.0	14.5	4.0	3.5	6.0	4.5	5.5	3.5	6.0	3.5
14	16.5	15.5	16.5	15.5	4.0	3.5	6.5	3.0	6.0	3.5	6.0	4.5
15	15.5	13.0	15.0	13.5	4.0	3.5	3.5	2.0	7.0	5.5	4.5	3.5
16	13.0	12.5	15.5	13.0	4.0	4.0	5.0	3.0	6.5	2.5	5.5	3.0
17	14.5	12.0	17.0	14.5	4.0	3.5	5.0	4.0	5.5	1.5	7.5	4.0
18	14.0	12.0	16.0	13.5	4.5	3.5	5.0	3.5	4.5	2.5	8.5	6.0
19	15.0	14.0	14.0	12.0	4.5	4.0	5.0	3.5	9.0	4.0	9.5	7.5
20	16.0	13.5	12.0	12.0	6.0	4.5	5.5	5.0	9.5	5.5	11.0	8.0
21	16.5	13.5	12.0	11.5	6.0	5.0	5.5	3.5	8.0	7.0	13.0	9.0
22	16.5	14.0	12.5	11.5	5.5	5.0	4.5	3.5	8.0	6.5	14.5	10.0
23	15.0	13.0	13.0	12.0	5.0	4.0	5.5	3.0	7.0	4.0	14.5	12.0
24	13.0	12.0	12.5	10.5	4.0	3.5	7.0	5.0	4.0	2.5	13.5	11.5
25	---	---	11.0	10.5	3.5	3.0	5.0	4.0	2.0	1.0	11.0	8.5
26	---	---	10.5	9.5	3.5	3.0	5.0	4.5	---	---	8.5	7.0
27	15.0	12.5	10.0	9.0	4.0	3.0	5.5	3.5	2.0	1.0	7.5	6.0
28	15.0	13.0	10.5	9.0	5.0	4.0	4.0	3.0	2.5	1.5	9.0	6.5
29	14.5	12.5	9.5	9.5	5.0	4.0	4.0	3.5	---	---	9.5	8.0
30	15.5	11.5	10.5	9.0	6.0	5.0	5.0	3.5	---	---	10.0	9.0
31	16.5	15.0	---	---	6.0	5.5	4.5	4.0	---	---	10.0	9.0
MONTH	22.0	11.5	17.0	9.5	10.5	3.0	7.0	2.0	9.5	1.0	14.5	1.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	5.5	16.5	13.0	17.0	15.5	24.5	24.0	31.5	25.0	28.5	25.0
2	10.5	9.0	18.5	13.5	18.5	16.5	24.0	23.5	31.0	27.0	26.5	25.5
3	10.5	9.5	17.5	15.0	21.0	18.0	26.0	22.5	31.0	28.5	27.0	24.5
4	9.5	5.5	17.0	15.5	24.0	19.0	24.5	19.0	31.5	27.5	25.5	25.0
5	9.5	5.0	19.0	14.5	24.0	21.5	25.5	21.0	29.0	26.5	29.0	26.0
6	8.5	7.0	20.0	15.5	---	---	26.5	21.0	30.5	26.0	29.5	26.0
7	7.5	5.5	23.0	15.0	---	---	27.5	21.5	31.0	25.5	28.0	25.5
8	7.5	5.5	25.0	19.0	26.5	23.5	29.0	23.0	30.0	28.0	25.0	22.0
9	7.5	5.0	28.0	21.5	27.0	24.5	26.0	23.0	29.0	26.5	25.5	20.5
10	7.0	5.5	28.5	24.0	28.0	24.5	29.0	25.0	29.0	27.5	26.5	21.0
11	8.0	5.5	30.5	25.0	25.0	23.0	29.5	25.5	28.0	25.5	27.0	24.0
12	10.0	5.0	29.0	23.5	25.0	22.0	31.0	26.0	29.0	24.0	28.0	23.0
13	10.5	10.0	25.5	23.0	26.0	20.5	30.5	27.5	27.5	22.5	27.5	22.5
14	11.5	9.5	27.0	22.0	26.5	21.0	30.5	27.5	26.0	24.0	22.0	19.0
15	11.0	9.5	25.5	23.0	28.0	22.5	32.0	27.5	23.5	22.5	19.5	18.5
16	9.5	9.0	---	---	27.5	23.0	33.5	28.5	26.5	20.5	18.5	18.0
17	10.5	9.0	---	---	28.5	23.5	31.5	27.5	25.0	21.5	18.5	17.0
18	12.5	9.5	---	---	25.5	22.0	---	---	25.0	22.0	19.0	17.5
19	12.5	10.5	---	---	27.5	19.5	---	---	28.0	24.0	19.0	17.5
20	15.5	11.5	---	---	29.0	22.0	---	---	27.0	23.5	18.0	17.0
21	16.5	13.0	---	---	25.5	22.0	---	---	28.0	22.0	19.0	18.0
22	16.0	15.0	---	---	28.0	23.5	31.0	25.5	30.0	26.5	18.5	18.0
23	19.0	14.5	24.5	23.0	23.5	21.5	---	---	27.0	25.0	18.5	16.5
24	20.0	17.0	23.5	17.5	25.0	21.0	---	---	27.5	25.0	19.5	16.0
25	22.0	19.5	18.0	14.5	26.0	20.0	31.0	29.5	28.0	25.0	---	---
26	20.5	16.5	14.5	13.0	27.5	20.0	31.5	28.5	---	---	---	---
27	18.0	15.0	14.0	13.0	24.0	22.5	32.5	27.5	---	---	---	---
28	18.0	15.5	14.0	13.5	---	---	30.0	25.0	---	---	---	---
29	15.5	13.0	14.5	13.0	---	---	32.0	27.5	26.0	24.5	---	---
30	16.0	12.5	14.5	14.0	---	---	31.0	25.5	28.0	24.5	---	---
31	---	---	15.5	14.5	---	---	32.0	27.5	28.0	25.0	---	---
MONTH	22.0	5.5	30.5	13.0	29.0	15.5	33.5	19.0	31.5	20.5	29.5	16.0
YEAR	33.5	1.0										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

DISSOLVED OXYGEN, (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.1	5.7	9.4	8.0	10.2	9.2	11.7	10.5	12.3	11.2	13.9	13.8
2	7.7	5.3	9.7	8.1	10.1	9.1	12.5	11.0	12.5	10.8	14.1	14.0
3	6.9	2.4	9.9	7.8	10.1	9.2	12.8	12.5	12.3	10.7	14.2	13.5
4	7.5	5.1	10.1	7.7	10.4	9.8	12.9	12.7	12.6	10.7	13.7	13.5
5	7.0	5.0	10.4	7.5	10.8	10.4	13.1	12.8	13.1	11.1	14.0	13.5
6	8.4	6.8	10.7	7.5	11.1	10.7	12.8	12.5	13.0	10.6	14.2	14.0
7	9.0	7.9	9.1	7.5	11.1	10.8	12.6	12.4	12.1	10.1	14.3	13.9
8	10.1	5.9	10.7	7.7	11.1	10.5	12.5	12.2	13.3	10.1	14.1	13.8
9	10.4	9.5	10.9	7.5	11.6	11.1	12.3	11.8	13.4	10.4	14.0	13.5
10	10.1	9.1	11.0	7.4	12.2	11.6	12.1	11.7	13.7	10.8	13.6	13.4
11	9.9	8.5	11.4	7.0	12.3	12.1	12.1	11.7	13.9	10.5	13.7	13.4
12	9.4	5.0	8.2	7.0	12.3	12.0	11.7	11.2	13.5	10.3	13.9	13.4
13	9.9	9.0	10.0	5.8	11.9	11.8	11.2	10.5	13.8	10.3	13.3	12.8
14	9.7	9.0	7.5	5.2	12.1	11.8	11.8	10.5	13.8	9.9	12.9	12.5
15	9.9	9.0	8.4	5.5	11.9	11.5	12.3	11.5	12.9	9.6	13.5	13.0
16	9.8	9.4	9.2	7.1	11.8	11.5	11.9	11.3	14.3	9.6	13.5	12.2
17	10.1	5.4	7.8	5.1	12.0	11.5	11.4	11.1	15.2	10.5	12.3	10.8
18	9.4	8.8	8.3	7.1	11.6	10.9	12.0	11.2	14.4	9.9	10.9	10.3
19	9.2	5.6	8.9	7.5	11.6	10.8	11.9	11.1	15.3	9.4	11.5	10.4
20	9.2	8.5	9.0	7.9	10.9	9.7	11.3	10.8	10.8	9.2	11.4	10.5
21	9.1	8.1	9.1	8.0	10.8	9.5	11.4	10.7	10.1	9.3	11.3	10.3
22	9.1	5.2	9.2	7.9	11.1	10.6	12.0	11.0	12.2	10.1	11.3	9.5
23	8.8	8.2	8.1	7.7	11.5	10.7	11.8	9.7	11.6	10.3	11.0	8.9
24	9.4	8.7	8.7	7.9	11.7	11.1	10.8	10.2	12.2	11.6	10.1	9.1
25	---	---	9.2	8.4	11.8	11.2	11.6	10.8	12.5	12.1	11.0	10.2
26	---	---	9.5	8.5	12.0	11.6	11.4	10.9	---	---	11.8	11.0
27	9.0	8.1	9.2	8.3	11.9	11.3	11.5	11.0	14.3	14.1	12.4	11.4
28	9.1	8.3	9.5	8.8	11.7	10.9	12.0	11.3	14.2	13.8	12.3	11.3
29	9.4	8.4	9.8	8.9	11.5	10.4	11.9	11.4	---	---	11.4	11.1
30	9.5	8.2	10.2	9.0	10.6	10.1	12.0	11.3	---	---	11.3	11.0
31	9.3	7.9	---	---	10.9	10.1	12.0	11.2	---	---	11.5	11.0
MONTH	10.4	2.4	11.4	5.1	12.3	9.1	13.1	9.7	15.3	9.2	14.3	8.9

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.7	11.3	12.1	8.6	9.7	9.2	6.2	5.5	7.6	4.4	8.2	6.2
2	11.4	10.9	12.9	8.0	9.6	8.8	6.5	5.5	5.3	4.6	7.7	6.1
3	11.6	11.2	9.6	7.8	9.4	8.5	7.5	5.0	5.8	5.5	8.4	5.0
4	11.5	11.3	10.6	7.9	9.6	7.6	6.8	5.8	7.1	5.5	6.9	5.5
5	11.7	11.4	12.3	7.7	9.3	7.6	7.4	5.2	7.3	4.4	8.5	5.0
6	12.0	11.4	12.9	7.4	---	---	7.8	5.0	7.5	5.3	7.5	2.5
7	12.3	11.8	13.3	5.8	---	---	8.2	5.9	7.9	4.8	7.4	3.9
8	12.0	11.5	12.7	5.1	8.4	6.5	8.4	5.5	5.8	4.5	7.4	5.3
9	11.9	11.4	12.1	5.4	8.3	6.7	6.5	4.9	7.5	4.8	8.3	5.7
10	12.3	11.9	10.6	5.0	8.3	7.0	8.2	5.9	5.8	3.5	8.4	5.2
11	12.1	11.5	10.5	4.7	8.6	7.1	7.8	5.4	5.3	5.3	8.2	5.0
12	11.7	11.1	9.2	2.6	8.8	7.5	8.1	5.1	9.0	5.3	8.8	4.9
13	11.3	10.7	7.1	5.4	8.5	6.5	7.7	2.2	7.6	5.0	8.6	4.5
14	11.5	10.5	7.4	5.9	8.8	6.2	7.3	3.7	7.5	4.8	8.2	7.5
15	11.3	10.7	7.4	5.0	8.5	5.7	8.3	4.3	7.6	5.5	8.5	8.2
16	11.6	11.1	---	---	9.0	5.5	8.5	4.3	8.5	5.3	8.8	8.5
17	11.8	10.8	---	---	9.5	5.2	9.2	4.1	8.2	5.0	8.9	8.5
18	11.9	10.4	---	---	8.6	5.1	9.9	3.9	7.0	5.2	8.7	8.3
19	11.6	9.8	---	---	9.5	5.0	10.4	3.9	8.2	5.2	8.7	8.3
20	11.8	9.8	---	---	9.7	4.8	10.8	3.5	7.6	3.4	8.7	8.3
21	12.3	9.1	---	---	6.7	3.7	11.2	3.4	5.5	3.0	8.3	8.1
22	12.1	9.0	---	---	4.8	1.8	9.9	2.9	7.6	5.5	8.4	8.0
23	13.2	8.6	7.3	5.4	7.4	3.9	9.8	2.4	5.8	4.7	8.5	8.1
24	12.0	8.0	7.2	5.4	8.3	5.3	6.5	3.4	5.5	5.6	8.5	7.9
25	13.1	7.6	8.3	7.5	8.5	5.4	6.1	3.5	7.4	5.6	8.4	7.7
26	10.3	7.4	8.6	7.6	8.8	5.2	5.4	3.5	7.0	5.7	8.4	7.5
27	9.6	7.1	---	---	7.6	5.0	7.4	3.5	6.9	5.7	8.3	7.6
28	11.0	8.2	---	---	---	---	5.9	3.5	5.6	3.7	7.5	7.1
29	10.7	8.3	---	---	---	---	6.8	5.2	6.1	5.4	7.7	7.1
30	11.9	8.7	10.4	10.2	---	---	7.1	4.9	7.4	5.4	7.7	6.9
31	---	---	10.2	9.6	---	---	7.2	4.9	7.9	6.0	---	---
MONTH	13.2	7.1	13.3	2.6	9.7	1.8	11.2	2.2	9.0	3.0	8.9	2.5
YEAR	15.3	1.8										

04206250 CUYAHOGA RIVER AT IRA, OH

LOCATION.--Lat 41°10'53", long 81°35'00", Summit County, Hydrologic Unit 04110002, on left bank at upstream side of highway bridge on Ira Road at Ira, 1.8 mi (2.9 km) downstream from Yellow Creek, and 2.1 mi (3.4 km) upstream from Furnace Run.

DRAINAGE AREA.--478 mi^2 (1,238 km^2).

PERIOD OF RECORD.--October 1973 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 712.13 ft (217.057 m) National Geodetic Vertical Datum of 1929, (Summit County Engineers Office benchmark).

REMARKS.--Records fair. Natural flow of stream affected by diversions, storage reservoirs and power plants. Some diversion from the Tuscarawas drainage into this basin at Portage Lakes (see REMARKS for station 03116000). Water quality data collected at this site 1973 to 1977.

AVERAGE DISCHARGE.--6 years, 753 ft^3/s (21.3 m^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,670 ft^3/s (189 m^3/s) Sept. 14, 1979, gage height, 14.96 ft (4.560 m); minimum daily, 170 ft^3/s (4.81 m^3/s) June 15, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,670 ft^3/s (189 m^3/s) Sept. 14; gage height, 14.96 ft (4.560 m); minimum daily, 188 ft^3/s (5.32 m^3/s) Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	402	293	317	1580	456	1950	1590	627	1170	424	358	375
2	258	286	303	1740	412	2170	2500	597	939	469	699	341
3	279	282	602	1230	396	2340	2600	589	770	416	493	334
4	458	279	987	1080	392	3180	2490	556	661	639	391	315
5	317	265	682	1160	332	3300	2350	520	652	489	387	293
6	331	265	589	1110	324	3160	2090	497	564	405	341	295
7	489	272	585	1310	316	3340	1730	473	493	362	289	359
8	524	272	1030	917	308	3090	1520	450	520	338	247	275
9	462	265	1410	739	324	2560	2190	413	458	512	227	240
10	435	272	995	650	324	2070	1870	391	504	420	344	243
11	424	272	788	402	289	1630	1520	369	593	512	454	240
12	614	244	752	373	328	1330	1630	384	516	327	286	254
13	1030	251	712	387	328	1140	1540	405	454	314	227	271
14	775	275	618	597	316	1050	1690	384	413	352	208	5470
15	597	265	548	489	324	923	1490	380	369	296	196	5000
16	556	247	485	416	316	833	1300	384	320	293	194	4000
17	508	355	431	446	296	780	1150	362	317	257	188	3200
18	469	331	405	443	275	740	1050	338	303	224	328	2500
19	443	293	373	408	282	708	952	317	261	218	237	2000
20	416	282	384	412	324	664	852	303	303	208	240	1700
21	398	272	473	468	420	620	793	365	627	202	394	1300
22	358	258	439	404	528	598	763	314	355	191	352	1000
23	356	320	413	368	1310	572	699	300	310	279	540	800
24	338	293	405	584	1960	914	699	508	334	341	491	700
25	314	279	439	540	2000	1060	606	2300	334	275	394	600
26	497	261	384	568	2390	950	656	2000	282	272	344	570
27	424	376	348	584	1840	874	691	1600	300	250	528	550
28	376	394	324	520	1710	982	550	1630	334	481	824	750
29	358	364	307	532	---	1380	524	1800	355	384	816	650
30	344	331	358	512	---	1570	573	1620	394	307	566	500
31	314	---	639	500	---	1560	---	1370	---	257	443	---
TOTAL	13866	8694	17525	21369	18820	48000	40708	22547	14205	10714	11984	35137
MEAN	447	290	565	689	672	1549	1357	727	474	346	387	1171
MAX	1030	394	1410	1740	2390	3340	2600	2300	1170	639	824	5470
MIN	258	244	303	368	275	572	524	300	261	191	188	240

CAL YR 1978 TOTAL 232507 MEAN 637 MAX 3480 MIN 185
WTR YR 1979 TOTAL 263577 MEAN 722 MAX 5470 MIN 188

04207100 TINKERS CREEK AT TWINSBURG, OH

LOCATION.--Lat 41°18'41", long 81°26'13", Summit County, Hydrologic Unit 04110002, at bridge on State Highway 82, 4.3 mi (6.9 km) downstream from Pond Brook, at Twinsburg.

DRAINAGE AREA.--48.4 mi² (125.4 km²).

PERIOD OF RECORD.--July 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	TUR-BID-ITY (NTU)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)
OCT												
03...	1500	14	730	7.5	14.5	25	--	11	8.2	80	23	--
17...	1245	39	665	7.4	7.5	15	--	20	10.4	87	19	--
31...	1145	18	700	7.5	7.5	15	--	22	10.0	83	23	--
NOV												
14...	1530	18	780	7.5	10.0	20	--	16	9.6	85	--	15
28...	0930	48	770	7.6	4.0	15	--	22	10.2	78	33	--
DEC												
13...	1345	51	570	7.2	1.0	15	--	20	12.4	87	--	48
27...	1100	25	740	7.8	1.0	15	--	26	12.2	170	--	7
JAN												
09...	1130	25	660	7.5	.0	15	--	26	11.0	75	--	9
31...	1215	51	810	7.7	.0	15	--	20	12.0	82	--	31
FEB												
07...	1230	30	770	7.5	.5	10	--	22	12.2	85	--	91
20...	1415	E20	1310	7.4	.5	40	--	40	10.4	72	--	34
MAR												
07...	1100	310	360	7.3	2.5	20	--	20	12.5	91	--	28
19...	1530	43	615	7.8	9.5	15	--	24	10.6	92	--	12
APR												
03...	1400	440	398	7.4	10.0	--	30	11	9.8	87	--	21
17...	1115	150	470	7.4	9.5	--	15	30	11.6	100	--	24
MAY												
01...	1130	38	515	7.7	10.0	--	10	25	10.8	96	--	34
16...	1300	16	710	7.3	14.5	--	15	--	9.3	90	--	41
30...	1015	62	445	7.0	15.0	--	20	20	8.6	84	--	22
JUN												
14...	1500	13	620	7.4	22.0	--	40	9.0	7.4	84	--	33
26...	1200	8.6	690	7.6	18.0	--	30	10	8.2	86	--	29
JUL												
17...	1200	24	535	7.4	24.0	--	30	12	5.0	59	--	42
24...	1130	8.1	760	7.9	23.0	--	20	14	5.8	67	--	43
AUG												
07...	1400	28	535	7.8	22.5	--	45	12	6.2	70	--	43
22...	1430	19	670	7.8	21.0	--	25	9.0	6.5	72	--	29
SEP												
05...	1500	51	470	7.6	23.0	--	35	8.0	5.8	67	--	13
11...	1200	11	530	7.6	19.0	--	20	13	6.7	71	--	25

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)
OCT											
03...	1000	3000	--	--	--	--	--	--	--	--	--
17...	1100	3100	--	--	--	--	--	--	--	--	--
31...	120	120	57	16	38	3.1	172	0	141	8.7	73
NOV											
14...	90	200	--	--	--	--	--	--	--	--	--
28...	600	980	--	--	--	--	--	--	--	--	--
DEC											
13...	580	820	--	--	--	--	--	--	--	--	--
27...	130	120	--	--	--	--	--	--	--	--	--
JAN											
09...	250	120	--	--	--	--	--	--	--	--	--
31...	120	110	--	--	--	--	--	--	--	--	--
FEB											
07...	250	50	--	--	--	--	--	--	--	--	--
20...	120	120	--	--	--	--	--	--	--	--	--
MAR											
07...	330	440	26	6.3	30	2.3	62	0	51	5.0	40
19...	K10	42	--	--	--	--	--	--	--	--	--
APR											
03...	770	1000	--	--	--	--	--	--	--	--	--
17...	800	540	--	--	--	--	--	--	--	--	--
MAY											
01...	120	80	--	--	--	--	--	--	--	--	--
16...	120	K16	59	17	49	2.7	220	0	180	18	52
30...	1300	700	--	--	--	--	--	--	--	--	--
JUN											
14...	100	87	--	--	--	--	--	--	--	--	--
26...	160	100	--	--	--	--	--	--	--	--	--
JUL											
17...	140	150	--	--	--	--	--	--	--	--	--
24...	160	380	--	--	--	--	--	--	--	--	--
AUG											
07...	200	200	40	11	38	2.9	144	0	118	3.7	44
22...	200	120	--	--	--	--	--	--	--	--	--
SEP											
05...	960	710	--	--	--	--	--	--	--	--	--
11...	150	60	--	--	--	--	--	--	--	--	--

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT											
03...	--	433	54	487	.58	.07	.66	.73	1.3	5.8	.52
17...	--	392	26	418	.65	.04	.58	.62	1.3	5.6	.27
31...	72	409	41	450	.52	.03	.44	.47	.99	4.4	.32
NOV											
14...	--	459	40	499	.85	.01	.51	.52	1.4	6.1	.33
28...	--	447	41	488	.76	.04	.51	.55	1.3	5.8	.33
DEC											
13...	--	331	35	366	.94	.18	.82	1.0	1.9	8.6	.18
27...	--	436	19	455	.91	.27	1.1	1.4	2.3	10	.31
JAN											
09...	--	381	27	408	.90	.33	.30	.63	1.5	6.8	.20
31...	--	507	27	534	.73	.25	.65	.90	1.6	7.2	.20
FEB											
07...	--	480	33	513	.88	.33	.77	1.1	2.0	8.8	.26
20...	--	911	809	1720	1.4	.38	1.0	1.4	2.8	12	.58
MAR											
07...	58	247	29	276	.79	.13	.59	.72	1.5	6.7	.09
19...	--	368	36	404	.76	.10	.49	.59	1.4	6.0	.23
APR											
03...	--	254	66	320	.50	.05	.64	.69	1.2	5.3	.14
17...	--	269	49	318	.28	.04	.37	.41	.69	3.1	.11
MAY											
01...	--	337	42	379	1.0	.60	1.0	1.6	2.6	12	.64
16...	120	453	25	478	.40	.06	.66	.72	1.1	5.0	.19
30...	--	275	54	329	.49	.13	.79	.92	1.4	6.2	.18
JUN											
14...	--	378	66	444	.81	.09	.77	.86	1.7	7.4	.33
26...	--	449	52	501	.77	.05	.77	.82	1.6	7.0	.28
JUL											
17...	--	340	78	418	.71	.12	1.1	1.2	1.9	8.5	.51
24...	--	487	35	522	1.1	.13	.60	.73	1.8	8.1	.30
AUG											
07...	76	339	108	447	.78	.21	1.2	1.4	2.2	9.7	.57
22...	--	420	69	489	.83	.00	.86	.86	1.7	7.5	.36
SEP											
05...	--	301	78	379	.43	.06	.71	.77	1.2	5.3	.32
11...	--	363	34	397	.62	.03	.95	.98	1.6	7.1	.36

04207100 TINKERS CREEK AT TWINSBURG, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)
OCT											
03...	2	<10	5	1400	3	180	22	30	7.4	1	0
17...	0	20	4	890	1	100	11	20	4.4	2	0
31...	2	10	3	1000	12	90	11	110	7.9	0	0
NOV											
14...	0	10	4	1100	5	120	10	10	10	3	0
28...	0	<10	2	710	0	100	10	20	6.4	0	1
DEC											
13...	0	10	1	750	3	80	0	10	12	0	0
27...	0	10	4	730	2	130	10	20	5.9	1	--
JAN											
09...	0	10	5	700	0	130	13	40	7.3	0	0
31...	8	<10	5	7000	120	1400	40	70	6.8	0	0
FEB											
07...	0	10	1	680	0	200	11	40	5.7	4	1
28...	0	<10	3	1900	5	290	6	30	7.8	2	0
MAR											
07...	0	10	4	1200	3	80	5	10	13	3	0
19...	0	<10	4	780	3	100	10	20	6.7	15	1
APR											
03...	1	<10	5	1800	4	70	12	60	7.3	0	0
17...	2	<10	3	810	16	70	10	10	6.0	1	0
MAY											
01...	3	30	15	740	24	130	43	50	9.8	0	1
16...	0	20	3	1100	5	340	12	20	7.5	1	2
30...	1	20	3	1300	0	140	10	10	13	0	0
JUN											
14...	10	20	6	2600	140	250	12	30	8.1	0	0
26...	0	20	6	1700	22	230	25	20	8.8	0	2
JUL											
17...	3	40	5	2500	20	310	9	20	11	1	1
24...	1	20	4	1100	5	240	10	30	9.0	1	1
AUG											
07...	4	10	7	3100	50	300	7	50	16	1	0
22...	15	<10	8	1700	140	230	6	20	9.1	0	1
SEP											
05...	2	10	5	2200	32	230	6	20	6.7	1	1
11...	0	<10	4	1800	2	250	4	10	8.3	1	1

04207200 TINKERS CREEK AT BEDFORD, OH

LOCATION.--Lat 41°23'08", long 81°31'39", in T.6 N., R.11 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on State Highway 14 in Bedford, 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--83.9 mi² (217 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1962 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 876.18 ft (267.060 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--16 years (1963-79), 126 ft³/s (3.568 m³/s), 20.40 in/yr (518 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,220 ft³/s (204 m³/s) July 20, 1969, gage height, 10.10 ft (3.078 m), from rating curve extended above 3,400 ft³/s (96.3 m³/s) on the basis of contracted-opening measurement of peak flow; minimum, 5.2 ft³/s (0.15 m³/s) Aug. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 4	2300	1930	54.7	6.43	1.960	Aug. 28	0400	1560	44.2	6.10	1.859
Mar. 28	2400	1520	43.0	6.07	1.850	Sept. 14	1000	*4450	126	*8.30	2.530
May 25	0600	2430	68.8	6.86	2.091						

Minimum discharge, 20 ft³/s (0.57 m³/s) July 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	31	43	906	50	496	278	66	100	62	199	63
2	38	30	38	532	46	609	453	56	95	151	357	61
3	34	30	179	200	44	986	479	65	70	67	171	72
4	86	27	262	130	42	1640	551	59	50	76	83	130
5	43	26	193	100	38	1340	399	52	56	50	72	88
6	72	25	117	80	36	781	358	45	66	37	65	70
7	93	26	84	65	34	414	220	43	58	29	52	57
8	53	29	293	55	33	256	156	44	49	25	42	41
9	41	30	349	50	32	184	558	37	66	182	34	31
10	31	28	311	46	31	210	403	72	149	65	52	33
11	26	28	156	44	30	149	292	49	128	163	115	28
12	37	26	109	42	30	114	209	102	81	237	72	26
13	146	27	83	40	30	102	176	81	54	202	47	25
14	193	38	72	75	30	115	296	46	39	153	36	2470
15	109	32	66	60	30	96	254	38	36	88	30	1550
16	69	33	62	50	30	78	218	37	31	61	27	1080
17	54	50	58	46	30	72	202	31	28	49	26	516
18	42	43	54	44	30	69	139	30	28	38	81	241
19	51	38	51	42	30	68	98	28	28	31	37	135
20	53	33	49	40	30	66	53	30	31	28	33	98
21	47	32	67	40	37	57	75	52	119	24	44	76
22	41	38	72	42	70	50	67	31	72	86	39	65
23	42	41	57	46	400	53	52	29	45	53	166	56
24	38	41	47	80	798	385	57	262	32	30	217	49
25	37	37	44	126	776	349	52	1690	29	28	193	43
26	65	35	40	90	590	294	72	1130	28	37	96	35
27	76	84	39	70	474	214	153	632	26	32	76	31
28	63	93	38	65	455	314	144	333	36	51	532	121
29	43	67	37	60	---	716	102	190	37	37	290	96
30	37	52	66	60	---	617	79	124	38	29	139	56
31	33	---	397	55	---	426	---	96	---	31	86	---
TOTAL	1864	1142	3533	3381	4286	11320	6695	5579	1705	2232	3509	7446
MEAN	60.1	38.1	114	109	153	365	223	180	56.8	72.0	113	248
MAX	193	93	397	906	798	1640	558	1690	149	237	532	2470
MIN	26	25	37	40	30	50	52	28	26	24	26	25
CFSM	.72	.45	1.36	1.30	1.82	4.35	2.56	2.15	.68	.86	1.35	2.96
IN.	.83	.51	1.57	1.50	1.90	5.02	2.97	2.47	.76	.99	1.56	3.30

CAL YR 1978 TOTAL 41192 MEAN 113 MAX 1550 MIN 16 CFSM 1.35 IN 18.26
WTR YR 1979 TOTAL 52692 MEAN 144 MAX 2470 MIN 24 CFSM 1.72 IN 23.36

04207200 TINKERS CREEK AT BEDFORD, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--March to June 1972, January 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,300 mg/L Feb. 16, 1976; minimum daily mean, 1 mg/L on many days during July, August, 1975.
SEDIMENT LOADS: Maximum daily, 9,800 tons (8,890 tonnes) Feb. 16, 1976; minimum daily, 0.05 ton (0.05 tonne) Aug. 1-3, 1975.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 632 mg/L June 26; minimum daily mean, 2 mg/L July 17.
SEDIMENT LOADS: Maximum daily, 3,570 tons (3,240 tonnes) Dec. 14; minimum daily, 0.12 ton (0.11 tonne) July 17.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
SEP								
14...	0815	3960	993	10600	37	48	60	72

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
SEP							
14...	82	83	88	92	97	99	100

04207200 TINKERS CREEK AT BEDFORD, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11	2.1	20	1.7	22	2.6	290	631	20	2.7	145	210
2	10	1.0	15	1.2	26	2.7	157	282	20	2.5	151	250
3	36	6.3	15	1.2	113	68	50	32	20	2.4	227	751
4	92	32	15	1.1	170	115	50	18	20	2.3	264	1170
5	8	.93	15	1.1	102	53	40	11	20	2.1	222	903
6	61	24	15	1.0	46	15	30	6.5	25	2.4	102	215
7	55	20	15	1.1	23	5.2	20	3.5	20	1.8	56	63
8	10	1.4	15	1.2	165	175	15	2.2	20	1.8	41	28
9	12	1.3	15	1.2	151	140	13	1.8	20	1.7	32	16
10	10	.84	15	1.1	62	52	12	1.5	20	1.7	21	12
11	8	.56	15	1.1	47	20	11	1.3	20	1.6	18	7.2
12	7	.70	15	1.1	37	11	10	1.1	20	1.6	19	5.9
13	134	56	13	.95	29	6.5	10	1.1	20	1.6	28	7.7
14	113	57	22	2.3	33	6.4	20	4.1	20	1.6	26	8.1
15	25	7.4	15	1.3	28	5.0	20	3.2	20	1.6	25	6.5
16	30	5.6	18	1.6	24	4.0	15	2.0	20	1.6	25	5.3
17	42	6.1	36	5.5	24	3.8	12	1.5	20	1.6	25	4.9
18	25	2.8	15	1.7	25	3.6	10	1.2	20	1.6	18	3.4
19	19	2.6	8	.82	24	3.3	12	1.4	20	1.6	12	2.2
20	23	3.3	10	.89	17	2.2	15	1.6	20	1.6	16	2.9
21	25	3.2	11	.95	20	3.6	20	2.2	30	3.0	17	2.6
22	22	2.4	14	1.1	25	4.9	25	2.8	95	18	15	2.0
23	20	2.3	37	4.1	25	3.8	37	4.6	452	1240	17	2.4
24	23	2.4	14	1.5	25	3.2	99	38	254	586	183	288
25	21	2.1	11	1.1	25	3.0	90	28	68	142	97	95
26	35	6.1	9	.85	25	2.7	28	6.8	67	107	34	27
27	42	8.6	93	34	25	2.6	22	4.2	75	96	26	15
28	27	4.6	48	13	21	2.2	19	3.3	91	112	134	195
29	19	2.2	15	2.7	17	1.7	20	3.2	---	---	268	579
30	18	1.8	15	2.1	22	3.9	20	3.2	---	---	114	190
31	33	2.9	---	---	204	312	20	3.0	---	---	72	83
TOTAL	---	270.53	---	90.56	---	1037.9	---	1107.3	---	2341.4	---	5051.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	32	24	6	1.1	14	3.8	51	11	102	168	37	6.3
2	116	151	6	.91	14	3.6	151	79	247	241	52	8.6
3	91	118	7	1.2	11	2.1	21	3.8	139	64	95	27
4	134	217	4	.64	11	1.5	58	17	52	12	155	57
5	66	59	3	.42	17	2.6	28	3.8	68	15	61	15
6	32	31	4	.49	15	2.7	5	.50	75	13	25	4.7
7	26	15	5	.58	10	1.6	4	.31	28	3.9	26	4.0
8	25	11	8	.95	8	1.1	8	.54	30	3.4	27	3.0
9	222	357	5	.50	52	16	531	424	23	2.1	27	2.3
10	61	56	70	23	248	167	140	25	64	14	23	2.0
11	29	22	18	2.4	180	7	257	331	119	43	13	.99
12	53	30	90	60	35	7.7	283	231	23	4.5	12	.84
13	18	8.6	67	15	17	2.5	53	34	21	2.7	11	.83
14	154	138	20	2.5	10	1.1	53	22	18	1.7	493	3480
15	15	10	9	.92	10	.97	53	13	17	1.4	157	657
16	12	7.1	10	1.0	11	.92	53	8.7	15	1.1	83	242
17	15	8.2	11	.92	11	.83	42	5.6	14	.98	61	95
18	13	4.9	9	.73	14	1.1	40	4.1	150	41	38	25
19	14	3.7	9	.68	18	1.4	37	3.1	33	3.3	33	12
20	12	2.7	14	1.1	40	3.8	34	2.6	11	.98	28	7.4
21	11	2.2	54	9.3	156	53	31	2.0	17	2.0	25	5.1
22	11	2.0	11	.92	14	2.7	96	35	13	1.4	20	3.5
23	10	1.7	11	.83	10	1.2	54	8.7	190	102	18	2.7
24	8	1.2	330	462	11	.95	17	1.4	453	388	23	3.0
25	7	.99	443	2020	13	1.0	12	.91	228	139	22	2.6
26	18	3.5	142	433	8	.60	12	1.2	48	12	12	1.1
27	61	27	87	148	18	1.3	11	.95	37	7.6	13	1.1
28	22	8.6	37	33	26	2.5	33	4.5	242	360	134	49
29	14	3.9	27	14	13	1.3	23	2.3	244	204	82	23
30	9	1.9	20	6.7	15	1.5	13	1.0	59	22	33	5.0
31	---	---	16	4.1	---	---	11	.92	43	10	---	---
TOTAL	---	1357.19	---	3245.89	---	352.37	---	1278.93	---	1885.06	---	4737.05

TOTAL LOAD FOR YEAR: 22756.17 TONS.

04207300 TINKERS CREEK NEAR INDEPENDENCE, OH

LOCATION.--Lat 41°21'54", long 81°36'32", Cuyahoga County, Hydrologic Unit 04110002, at bridge on Canal Road, 300 ft (90 m) upstream from Cuyahoga River, and 2.7 mi (4.3 km) southeast of Independence.

DRAINAGE AREA.--96.0 mi² (248.6 km²).

PERIOD OF RECORD.--July 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	TUR-BID-ITY (NTU)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)
OCT												
03...	1300	32	840	8.0	14.5	3	--	30	10.8	105	22	--
17...	1600	60	785	7.9	10.5	15	--	31	11.4	100	--	21
31...	1600	40	975	7.9	10.0	10	--	48	12.2	110	29	--
NOV												
14...	1315	37	1100	7.9	11.5	10	--	48	15.0	140	17	--
28...	1200	95	1200	7.5	4.5	30	--	10	10.2	78	180	--
DEC												
13...	1600	91	800	7.5	3.0	20	--	20	13.0	96	--	65
27...	1300	56	1400	8.1	1.0	15	--	13	13.4	94	--	14
JAN												
09...	1330	56	1100	8.1	.5	15	--	30	13.2	92	--	8
31...	1000	91	1620	8.0	.5	15	--	25	13.2	92	--	53
FEB												
07...	1030	54	1200	7.9	.0	10	--	38	12.4	84	--	110
21...	1000	E45	3170	7.8	1.0	15	--	--	12.0	84	--	69
MAR												
07...	1415	550	545	7.9	6.0	35	--	19	12.4	99	--	45
20...	0845	89	885	8.0	7.0	15	--	24	10.7	88	--	40
APR												
04...	0900	520	500	7.8	8.0	--	35	12	10.4	87	--	25
17...	1330	240	590	7.8	10.5	--	15	28	11.8	100	--	38
MAY												
01...	1445	83	670	8.7	14.5	--	10	50	13.2	130	--	25
16...	1030	49	980	7.7	14.0	--	5.0	38	10.0	96	--	55
30...	1300	150	635	7.4	15.5	--	2.0	--	9.8	98	--	25
JUN												
14...	1300	41	800	7.9	20.0	--	10	30	9.5	100	--	32
26...	1430	31	810	7.7	21.5	--	10	28	10.5	120	--	37
JUL												
17...	1600	55	690	7.8	25.0	--	10	46	8.0	95	--	36
24...	1500	35	740	8.1	25.0	--	10	32	7.8	93	--	52
AUG												
08...	0930	44	770	8.0	22.0	--	15	18	7.8	89	--	37
22...	1130	45	800	8.0	21.5	--	25	46	8.4	94	--	46
SEP												
05...	1315	93	575	7.9	23.0	--	30	11	7.1	82	--	16
11...	1500	36	830	7.7	22.5	--	1.0	60	7.7	88	--	21

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)
OCT											
03...	0	10	6	370	5	40	27	40	8.1	1	1
17...	1	60	13	640	5	60	23	40	9.8	3	0
31...	2	10	11	--	6	50	20	160	13	0	0
NOV											
14...	0	10	12	990	4	20	23	50	11	1	0
28...	1	50	15	1600	17	120	19	80	16	8	0
DEC											
13...	2	40	9	1300	38	130	20	60	9.0	11	0
27...	0	20	12	1600	13	200	23	80	7.2	27	--
JAN											
09...	0	20	14	830	3	170	24	100	9.4	5	0
31...	0	30	41	1200	16	210	35	90	10	2	0
FEB											
07...	1	20	24	470	8	220	31	80	9.6	13	1
21...	4	40	33	1000	27	310	29	130	40	20	1
MAR											
07...	1	10	8	2500	10	130	12	30	8.1	1	0
20...	1	10	20	1000	15	170	31	70	12	2	1
APR											
04...	1	<10	12	2700	8	100	13	50	7.0	2	1
17...	2	20	12	1600	87	120	22	40	99	5	0
MAY											
01...	1	20	3	810	21	130	39	40	6.9	0	1
16...	1	20	25	640	12	220	33	50	12	4	41
30...	1	40	46	3700	17	170	20	90	11	0	0
JUN											
14...	7	20	10	970	98	120	22	--	12	1	0
26...	0	20	10	550	7	100	19	30	15	0	2
JUL											
17...	1	30	10	970	7	100	14	30	11	1	1
24...	1	20	10	740	10	100	17	40	15	4	0
AUG											
08...	2	10	11	990	13	100	14	60	9.8	0	0
22...	3	10	14	420	41	50	14	30	11	0	0
SEP											
05...	4	10	12	1900	60	130	19	60	8.9	1	1
11...	0	110	8	480	2	80	10	20	6.5	0	1

04207300 TINKERS CREEK NEAR INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT											
03...	270	180	--	--	--	--	--	--	--	--	--
17...	830	200	--	--	--	--	--	--	--	--	--
31...	50	50	77	19	66	5.6	158	0	130	3.2	80
NOV											
14...	110	120	--	--	--	--	--	--	--	--	--
28...	7000	3600	--	--	--	--	--	--	--	--	--
DEC											
13...	3300	3000	--	--	--	--	--	--	--	--	--
27...	180	750	--	--	--	--	--	--	--	--	--
JAN											
09...	4400	2600	--	--	--	--	--	--	--	--	--
31...	20000	24000	--	--	--	--	--	--	--	--	--
FEB											
07...	6000	4200	--	--	--	--	--	--	--	--	--
21...	5900	4200	--	--	--	--	--	--	--	--	--
MAR											
07...	670	2400	35	8.4	48	3.1	80	0	66	1.6	51
20...	12000	K100	--	--	--	--	--	--	--	--	--
APR											
04...	1700	7200	--	--	--	--	--	--	--	--	--
17...	700	900	--	--	--	--	--	--	--	--	--
MAY											
01...	K25	K30	--	--	--	--	--	--	--	--	--
16...	670	86	74	19	81	6.1	204	0	167	6.5	78
30...	1300	430	--	--	--	--	--	--	--	--	--
JUN											
14...	18000	170	--	--	--	--	--	--	--	--	--
26...	600	75	--	--	--	--	--	--	--	--	--
JUL											
17...	K26000	90	--	--	--	--	--	--	--	--	--
24...	920	730	--	--	--	--	--	--	--	--	--
AUG											
08...	5000	500	62	15	64	4.8	168	0	138	2.7	69
22...	3400	140	--	--	--	--	--	--	--	--	--
SEP											
05...	1400	500	--	--	--	--	--	--	--	--	--
11...	700	100	--	--	--	--	--	--	--	--	--

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT											
03...	--	521	60	581	4.1	.18	.92	1.1	5.2	23	1.4
17...	--	478	25	503	2.3	.36	.74	1.1	3.4	15	.77
31...	160	606	45	651	3.8	.26	1.0	1.3	5.1	23	1.0
NOV											
14...	--	602	51	653	4.2	.06	1.1	1.2	5.4	24	1.1
28...	--	703	76	779	2.0	.31	1.1	1.4	3.4	15	.66
DEC											
13...	--	473	49	522	2.1	.72	1.4	2.1	4.2	19	1.6
27...	--	806	61	867	4.3	.13	20	20	24	110	.85
JAN											
09...	--	633	52	685	1.8	2.1	1.1	3.2	5.0	22	.80
31...	--	977	43	1020	1.4	1.3	2.0	3.3	4.7	21	1.5
FEB											
07...	--	724	57	781	1.8	2.2	1.7	3.9	5.7	25	1.7
21...	--	1780	50	1830	1.6	4.5	.00	4.5	6.1	27	1.1
MAR											
07...	92	327	87	414	.93	.32	.98	1.3	2.2	9.9	.26
20...	--	545	56	601	1.0	.48	3.5	4.0	5.0	22	1.2
APR											
04...	--	325	93	418	.63	.18	.82	1.0	1.6	7.2	.43
17...	--	358	49	407	.42	.40	.54	.94	1.4	6.0	.36
MAY											
01...	--	457	37	494	.20	.01	.52	.53	.73	3.2	.18
16...	192	618	77	695	2.3	1.4	1.5	2.9	5.2	23	1.3
30...	--	404	105	509	1.4	.45	1.4	1.8	3.2	14	.42
JUN											
14...	--	481	40	521	2.7	.31	1.2	1.5	4.2	19	.68
26...	--	539	45	584	.87	.97	1.5	2.5	3.4	15	.95
JUL											
17...	--	469	47	516	2.7	.16	1.2	1.4	4.1	18	.98
24...	--	516	57	573	4.6	.00	2.0	2.0	6.6	29	.64
AUG											
08...	148	521	52	574	2.7	.07	1.2	1.3	4.0	18	.85
22...	--	506	13	519	.35	.22	1.8	2.0	2.4	10	1.1
SEP											
05...	--	375	81	456	2.1	.32	1.1	1.4	3.5	16	.51
11...	--	556	46	602	4.4	.31	1.5	1.8	6.2	27	.91

04207500 OHIO CANAL AT INDEPENDENCE, OH

LOCATION.--Lat 41°23'25", long 81°37'30", in T.6 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on right bank at upstream side of dam, 0.3 mi (0.5 km) upstream from Rockside Road and 0.8 mi (1.3 km) northeast of Independence.

PERIOD OF RECORD.--September 1921 to May 1923, August 1927 to December 1935, October 1940 to current year.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 605.31 ft (184.498 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1946, nonrecording gage, or water-stage recorder at site 0.4 mi (0.6 km) downstream at various datums. Dec. 10, 1946, to Nov. 3, 1950, nonrecording gage at present site and datum.

REMARKS.--Records fair. Water is diverted from Cuyahoga River into canal at headgates at Brecksville, 6 mi (10 km) upstream. Water-quality data collected at this site 1965 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 277 ft³/s (7.84 m³/s) Jan. 22, 1959; no flow June 4, 1947, July 2-7, 1950, July 16 to Aug. 19, 1959, Oct. 27 to Nov. 6, 1975.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	53	59	78	51	68	55	70	53	39	47	50
2	57	53	59	63	50	71	65	70	49	39	54	51
3	57	53	63	56	50	77	64	71	47	39	48	50
4	58	53	66	53	50	76	66	72	46	39	46	51
5	57	53	57	53	49	58	55	69	46	37	47	50
6	57	53	57	53	48	59	61	68	45	36	45	50
7	48	54	67	53	48	57	58	67	44	35	43	51
8	49	54	66	51	48	56	59	67	43	35	43	51
9	49	54	68	49	48	55	76	67	44	35	43	50
10	49	54	60	45	47	56	67	66	50	24	44	50
11	49	55	58	45	47	53	60	65	51	27	46	50
12	50	55	58	46	47	51	62	65	47	27	44	51
13	54	55	58	47	47	50	61	67	46	29	43	52
14	53	56	58	53	47	52	68	64	45	31	44	173
15	50	56	58	51	47	53	63	64	44	29	44	167
16	50	56	57	53	47	52	60	64	43	33	44	63
17	50	56	57	49	47	52	59	63	43	33	44	62
18	49	58	56	49	46	52	58	63	43	32	46	62
19	49	58	56	48	47	52	57	62	42	32	45	58
20	50	58	56	48	47	51	56	62	42	32	45	49
21	50	58	58	49	49	50	53	63	44	32	46	54
22	50	58	58	49	53	50	52	61	42	33	46	59
23	50	58	57	49	63	50	50	60	40	35	48	57
24	51	59	57	51	71	56	57	64	40	36	52	61
25	50	58	58	55	67	60	67	65	40	36	52	61
26	52	58	57	52	70	54	68	66	40	36	50	62
27	53	59	57	51	62	53	72	42	39	35	51	62
28	53	61	57	51	61	54	59	54	39	36	58	64
29	53	60	56	51	---	71	69	53	39	40	56	69
30	53	59	57	51	---	65	69	53	38	39	52	67
31	53	---	63	51	---	59	---	53	---	39	51	---
TOTAL	1611	1685	1829	1604	1454	1773	1866	1960	1314	1060	1467	1907
MEAN	52.0	56.2	59.0	51.7	51.9	57.2	62.2	63.2	43.8	34.2	47.3	63.6
MAX	58	61	68	78	71	77	76	72	53	40	58	173
MIN	48	53	56	45	46	50	50	42	38	24	43	49

CAL YR 1978 TOTAL 21292 MEAN 58.3 MAX 100 MIN 21
WTR YR 1979 TOTAL 19530 MEAN 53.5 MAX 173 MIN 24

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°23'43", long 81°37'48", in T.6 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank 240 ft (73 m) downstream from bridge on Old Rockside Road, 0.8 mi (1.3 km) northeast of Independence, and 3.0 mi (4.8 km) downstream from Tinkers Creek.

DRAINAGE AREA.--707 mi^2 (1,831 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1903 to December 1905 (fragmentary), January to July 1906 (gage heights and discharge measurements only), September 1921 to May 1923, September 1927 to December 1935, March 1940 to current year.

REVISED RECORDS.--WSP 1307: 1922-23(M), 1928-30(M), 1933(M), 1940(M), 1947(M), 1950(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 583.57 ft (177.872 m) National Geodetic Vertical Datum of 1929. Sept. 21, 1903 to July 21, 1906, nonrecording gage at bridge 240 ft (73 m) upstream at present datum. Sept. 28, 1921 to May 30, 1923, nonrecording gage at bridge 240 ft (73 m) upstream at datum 2.42 ft (0.739 m) higher. Sept. 5, to Oct. 8, 1927, nonrecording gage, and Oct. 9, 1927, to Dec. 31, 1935, Mar. 5, 1940, to June 19, 1969, water-stage recorder, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by diversion, storage reservoirs and power plants. Some diversion from the Tuscarawas drainage into this basin at Portage Lakes (see REMARKS for station 03116000). Water diverted into Ohio Canal at Brecksville, 6 mi (10 km) upstream from station, bypasses station. These records do not include flow in canal except above about 15,000 ft^3/s (425 m^3/s (425 m^3/s), when channels merge; record of diversion published as Ohio Canal at Independence (see station 04207500).

AVERAGE DISCHARGE.--48 years (1921-22, 1927-35, 1940-79), 802 ft^3/s (22.71 m^3/s), not including flow in Ohio Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft^3/s (702 m^3/s) Jan. 22, 1959, gage height, 22.81 ft (6.381 m), from rating curve extended above 17,000 ft^3/s (481 m^3/s) on basis of contracted-opening measurement of peak flow; minimum daily, 21 ft^3/s (0.59 m^3/s) Aug. 28, 1933; minimum combined daily discharge of river and canal, 55 ft^3/s (1.56 m^3/s) Aug. 28, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,700 ft^3/s (558 m^3/s) Sept. 15, gage height, 22.36 (6.724 m); minimum daily, 231 ft^3/s (6.54 m^3/s) July 21.

DISCHARGE, STREAM (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	583	278	322	3770	560	2890	2120	746	1630	542	723	535
2	319	263	304	3470	486	3810	3250	585	1220	600	2380	499
3	258	253	800	1920	450	4350	3790	572	980	551	893	440
4	575	248	1590	1420	420	7540	3450	586	797	727	591	640
5	357	242	1010	1340	398	6930	3630	500	727	645	618	451
6	384	236	731	1300	390	4600	2920	560	755	456	600	390
7	614	244	637	1110	374	3990	2250	521	591	407	423	503
8	601	254	1220	907	366	3690	1910	503	582	362	346	345
9	495	247	2450	572	362	3130	3770	455	542	1020	302	314
10	444	244	1560	538	354	2720	2940	469	746	811	322	245
11	424	256	1070	461	360	2140	2170	444	1000	690	826	299
12	491	241	922	419	374	1720	2110	508	567	743	459	299
13	1380	234	860	407	356	1440	2040	700	538	1170	326	310
14	1130	260	760	430	382	1430	2530	478	465	1040	291	10700
15	776	287	650	554	350	1240	2230	452	415	525	250	13900
16	614	255	530	542	340	1070	1890	440	350	427	242	6690
17	545	288	480	508	334	1000	1690	407	330	370	234	3860
18	484	447	440	525	330	956	1450	374	310	302	465	2900
19	451	308	410	444	326	897	1270	345	287	264	378	2240
20	424	279	430	436	334	845	1130	330	299	242	297	1740
21	397	269	510	503	423	764	1010	534	864	231	564	1390
22	359	254	460	478	750	704	955	382	538	427	499	1120
23	338	280	460	423	2490	653	873	345	346	482	1150	922
24	341	345	450	587	5230	1590	907	764	350	411	1210	743
25	302	283	480	1050	3300	2240	741	7560	342	346	1090	690
26	462	266	430	793	3990	1600	755	5960	330	338	578	621
27	558	354	400	577	2740	1340	1240	3550	302	305	613	542
28	416	637	370	558	2530	1270	917	2290	358	542	2050	917
29	361	416	350	572	---	3490	754	2190	400	551	1790	902
30	336	357	378	522	---	3030	723	1980	500	390	955	659
31	302	---	1080	504	---	2500	---	1670	---	322	677	---
TOTAL	15521	8524	22564	28740	29113	75534	57455	38613	17561	15320	22177	55975
MEAN	501	284	728	927	1040	2437	1915	1245	585	526	715	1866
MAX	1380	537	2450	3770	5230	7540	3790	7560	1630	1170	2380	13900
MIN	258	234	304	407	326	653	723	330	287	231	234	245

CAL YR 1978 TOTAL 322591 MEAN 884 MAX 7800 MIN 185
WTR YR 1979 TOTAL 388397 MEAN 1064 MAX 13900 MIN 231

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1948 to September 1949, October 1952 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1965 to current year.
pH: February 1973 to current year.
WATER TEMPERATURES: October 1948 to September 1949, October 1952 to current year.
DISSOLVED OXYGEN: July 1965 to current year.
SUSPENDED SEDIMENT DISCHARGE: Water years 1950-74, December 1976 to current year.

INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor since July 1965.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,030 micromhos Feb. 12, 1977; minimum, 149 micromhos Nov. 23, 1974.
pH: Maximum, 8.9 units Aug. 27, 28, 1976; minimum, 5.9 units Jan. 26, 1976.
WATER TEMPERATURES: Maximum, 31.0°C Aug. 18, 1949; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 14.5 mg/L Feb. 16, 1973; minimum, 0.0 mg/L Oct. 23, 1965, Feb. 10-12, June 23, July 26, 1966.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,800 mg/L Aug. 21, 1969; minimum daily mean, 1 mg/L Sept. 4, 10, 1955.
SEDIMENT LOADS: Maximum daily, 97,000 tons (88,000 tonnes) Sept. 14, 1979; minimum daily, 0.25 ton (0.23 tonne) Sept. 4, 1955.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,560 micromhos Feb. 22; minimum, 270 micromhos Sept. 14.
pH: Maximum recorded, 8.2 units Dec. 1, Mar. 24; minimum recorded, 6.5 units Mar. 3, 4.
WATER TEMPERATURES: Maximum, 28.5°C July 16; minimum, 1.0°C Jan. 2, 3, 9-12, Feb. 5-7, 10-14, 17-19, 25.
DISSOLVED OXYGEN: Maximum, 13.2 mg/L Mar. 2, 18; minimum, 3.0 mg/L June 21, July 4.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,780 mg/L Sept. 14; minimum daily mean, 4 mg/L, Nov. 1.
SEDIMENT LOADS: Maximum daily, 97,000 tons (88,000 tonnes) Sept. 14; minimum daily, 3.0 tons (2.7 tonnes) Nov. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 18...	1000	495	765	7.6	12.0	7.0	9.5	88	16	21000	700
NOV 14...	1015	245	1250	7.3	14.0	4.0	6.7	64	14	580	170
DEC 06...	1130	736	810	7.5	7.0	20	10.9	89	26	10000	4000
JAN 11...	0900	508	777	7.9	1.0	1.0	12.0	84	16	16000	1400
FEB 01...	0930	578	1340	7.8	2.5	6.0	10.9	80	34	7000	6500
MAR 06...	1100	4590	535	7.6	4.0	65	11.7	89	46	9500	5200
APR 09...	1400	4670	485	7.6	6.5	80	10.7	87	44	970	5600
MAY 08...	1130	503	955	7.7	20.0	3.0	7.5	82	41	250	K40
JUN 14...	1000	469	810	7.4	20.5	4.0	6.4	70	29	3000	360
JUL 18...	0900	314	945	7.7	23.5	2.0	5.2	60	27	1500	100
AUG 01...	1030	432	1110	7.8	26.0	25	4.5	55	50	3500	2000
SEP 11...	1700	279	1260	7.7	23.5	2.0	5.4	63	27	7000	100

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 18...	230	110	66	15	60	5.1	120	--	100	90	.3
NOV 14...	310	160	94	19	140	6.2	150	--	130	220	.3
DEC 06...	220	110	63	15	66	4.1	110	--	100	110	.3
JAN 11...	210	100	61	15	62	4.8	110	--	89	98	.3
FEB 01...	250	140	72	16	160	5.1	110	--	110	260	.2
MAR 06...	120	66	35	7.7	44	3.0	53	--	51	82	.1
APR 09...	130	68	39	8.7	41	3.2	55	--	59	68	.2
MAY 08...	230	110	68	15	81	4.8	120	--	99	160	.4
JUN 14...	220	92	64	15	76	4.4	130	--	89	120	.3
JUL 18...	250	110	72	16	73	4.3	140	--	98	140	.4
AUG 01...	250	120	72	17	130	6.1	130	4.0	100	210	.4
SEP 11...	270	130	78	18	140	6.7	140	5.5	110	220	.4

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 18...	8.5	447	418	.99	1.6	3.9	17	.32	--	--	--
NOV 14...	8.0	753	708	1.1	2.0	6.5	29	.53	9.3	710	25.0
DEC 06...	7.6	454	432	.92	1.1	3.8	17	.43	6.0	--	--
JAN 11...	8.9	432	406	.50	2.0	3.7	16	.35	--	--	--
FEB 01...	9.0	761	698	1.4	2.9	4.7	21	.44	6.3	--	--
MAR 06...	6.2	285	261	1.3	1.6	2.8	12	.38	7.2	--	--
APR 09...	5.8	280	264	.95	1.3	2.0	9.0	.18	--	--	--
MAY 08...	3.6	566	504	.90	2.2	4.0	18	.29	8.3	7300	--
JUN 14...	7.6	491	454	1.2	1.8	4.5	20	.25	9.2	1300	2.36
JUL 18...	8.7	561	497	1.4	2.3	4.9	22	.39	--	7100	.870
AUG 01...	9.9	638	624	1.5	2.7	5.2	23	.43	6.7	520	--
SEP 11...	10	714	680	1.8	3.3	6.7	30	.57	11	--	--

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ANALYSES OF MINOR ELEMENTS

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT									
10...	1000	2	2	0	0	0	0	10	1
JAN									
11...	0900	3	2	100	100	9	9	20	4
APR									
09...	1400	2	1	100	0	1	0	<10	<10
JUL									
10...	0900	6	5	50	50	4	4	30	20

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT									
10...	1	1	9	7	740	30	3	3	110
JAN									
11...	0	0	11	4	940	50	3	3	240
APR									
09...	3	0	26	4	10000	120	25	3	210
JUL									
10...	3	1	6	6	630	40	39	39	100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
10...	80	<.5	<.5	0	0	5	0	40	10
JAN									
11...	160	<.5	<.5	0	0	0	0	70	70
APR									
09...	60	<.5	<.5	0	0	0	0	90	10
JUL									
10...	150	<.5	<.5	0	0	0	0	30	30

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ANALYSES OF PESTICIDES

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)
NOV 14...	1015	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 01...	0930	ND	--	ND	--	ND	--	ND	--	ND
MAY 08...	1130	ND	--	ND	--	ND	--	ND	--	ND

DATE	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 01...	--	ND	--	ND	--	ND	--	ND	--
MAY 08...	--	ND	--	ND	--	ND	--	ND	--

DATE	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHYL PARATHION, TOTAL (UG/L)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 01...	ND	--	ND	--	ND	--	ND	--	ND
MAY 08...	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 14...	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 01...	--	ND	--	ND	--	ND	--	ND	--
MAY 08...	--	ND	--	ND	--	ND	--	ND	--

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1500	903	1160	993	1150	996	---	---	1420	1270	906	807
2	1030	885	1020	915	1220	996	702	609	1340	1220	789	678
3	1170	1040	954	900	1230	837	723	654	1250	1150	678	522
4	1340	969	1020	915	888	672	726	675	1330	1190	510	480
5	1110	965	1140	960	783	714	702	660	1360	1170	516	465
6	1160	918	984	980	828	765	612	600	1490	1360	564	519
7	1070	792	1120	903	822	753	711	618	1430	1290	558	465
8	999	867	1210	1010	822	648	717	675	1410	1210	492	465
9	936	837	1030	984	---	---	789	693	1380	1230	498	462
10	882	843	1150	954	---	---	825	750	1520	1320	564	510
11	927	828	1240	1060	720	654	822	759	1380	1170	561	525
12	990	591	1110	1010	774	696	1040	843	1380	1180	669	540
13	939	570	1410	1130	792	694	1250	963	1450	1230	699	594
14	750	584	1360	1240	858	756	1910	1220	1460	1300	672	618
15	783	711	1460	1050	960	816	1770	1310	1620	1370	642	621
16	840	786	1050	945	834	804	1310	1190	1540	1380	693	666
17	912	765	990	918	894	795	1210	1090	1440	1220	735	687
18	804	756	1240	900	894	822	1630	1230	1260	1110	759	717
19	798	762	909	855	906	849	1620	1170	1290	1130	825	720
20	975	774	1120	904	930	831	1170	1070	1510	1220	921	771
21	933	845	1240	1140	1340	954	1670	1120	2070	1480	930	837
22	909	840	1310	1190	1050	939	1840	1650	2560	1960	900	810
23	888	828	1290	1130	1020	894	1820	1670	2470	1810	957	834
24	1060	852	1400	1110	1090	957	2240	1770	963	870	1090	741
25	1040	870	1090	1010	1210	1040	2000	1460	891	795	738	717
26	906	867	1290	1070	1140	1040	1450	1400	804	678	885	732
27	885	590	1410	1230	1150	1090	1470	1390	909	753	891	804
28	876	738	1300	1070	1190	1070	1470	1380	1020	879	813	717
29	965	591	1110	951	1300	1170	1570	1350	---	---	666	594
30	1020	591	1160	954	1320	1100	1500	1400	---	---	654	591
31	1050	591	---	---	1680	900	1440	1340	---	---	600	582
MONTH	1500	570	1460	855	1680	648	2240	600	2560	678	1090	462

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	591	558	768	741	594	537	1330	870	1340	642	987	741
2	591	519	780	750	633	585	1050	768	585	450	993	789
3	534	507	963	759	672	603	1090	963	813	597	1010	792
4	543	507	1050	985	672	600	1010	879	825	795	1020	804
5	519	504	960	561	798	648	831	687	1020	738	807	771
6	540	507	968	594	795	702	840	765	897	687	840	807
7	537	519	1020	904	898	786	1050	834	1160	858	1050	845
8	567	531	999	924	936	870	1030	933	1320	1040	909	792
9	594	483	1150	965	861	786	933	672	1380	1070	930	846
10	534	492	1170	984	1010	642	758	609	1270	993	1190	924
11	549	531	954	585	939	618	857	558	987	753	1360	1250
12	585	565	990	507	1060	792	744	531	777	687	1370	1090
13	591	537	857	738	1060	834	736	444	843	753	1230	1050
14	600	549	933	774	885	792	657	450	1040	852	1170	270
15	594	555	1070	945	885	798	756	687	1170	1040	372	315
16	612	570	987	927	906	858	813	759	1600	1180	414	372
17	633	515	1050	936	1130	876	873	813	1750	1400	429	393
18	693	565	1040	1010	1120	924	1020	876	1730	1110	432	408
19	741	543	1040	927	972	879	1140	995	1750	1100	480	432
20	763	549	1020	924	1020	972	1290	1030	1340	1100	564	480
21	873	578	1140	957	972	627	1030	945	1620	1130	630	573
22	801	666	1080	885	819	654	936	603	1290	897	588	549
23	855	747	1160	972	984	749	851	654	1050	681	657	594
24	861	595	1220	581	975	918	962	873	738	570	624	597
25	723	540	633	372	927	870	1390	915	753	561	741	612
26	756	584	444	399	933	879	1500	1320	1080	771	990	729
27	819	578	510	447	1070	933	1440	1310	1280	1100	828	726
28	732	718	519	504	1250	1070	1550	1280	1080	408	801	679
29	1230	732	558	525	1260	1130	1330	910	828	582	669	600
30	771	741	573	510	1500	1130	1270	1050	785	696	777	635
31	---	---	573	531	---	---	1310	1100	804	759	---	---
MONTH	1230	483	1220	372	1500	537	1550	444	1750	408	1370	270
YEAR	2560	270										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.5	7.4	7.9	7.8	8.2	8.0	---	---	8.0	7.7	8.0	7.9
2	7.6	7.4	7.9	7.9	8.0	7.9	---	---	7.9	7.8	8.0	7.8
3	7.6	7.4	7.9	7.8	7.9	7.7	7.8	7.4	8.1	7.7	7.1	6.5
4	7.7	7.3	7.9	7.8	8.0	7.6	7.6	7.3	8.0	7.9	7.2	6.5
5	7.7	7.5	7.9	7.7	8.0	7.8	7.6	7.5	8.0	7.8	7.6	6.6
6	7.7	7.6	7.9	7.7	7.8	7.6	7.6	6.9	8.0	7.8	7.6	7.5
7	7.8	7.6	7.9	7.7	7.7	7.5	7.5	7.1	8.0	7.8	7.6	7.4
8	7.9	7.8	8.0	7.8	7.6	7.4	7.6	7.2	8.0	7.8	7.5	7.4
9	7.9	7.8	8.0	7.9	---	---	7.7	7.3	8.0	7.8	7.6	7.5
10	7.9	7.7	8.1	7.9	---	---	7.7	7.3	7.9	7.8	7.6	7.5
11	7.8	7.6	8.0	7.8	7.7	7.5	7.9	7.2	8.1	7.4	7.6	7.5
12	7.6	7.2	7.8	7.7	7.7	7.3	7.7	7.3	7.9	7.8	7.6	7.5
13	7.5	7.3	7.8	7.5	7.6	7.3	7.8	7.6	8.0	7.8	7.6	7.5
14	7.8	7.4	7.9	7.1	7.9	7.4	7.9	7.5	8.0	7.7	7.7	7.5
15	7.9	7.8	7.9	7.8	7.9	7.8	7.8	7.3	8.1	7.8	7.7	7.5
16	7.9	7.8	8.0	7.8	7.9	7.8	7.8	7.3	8.0	7.9	7.7	7.5
17	7.9	7.8	7.9	7.2	7.9	7.6	7.9	7.7	8.1	7.8	7.7	7.5
18	7.9	7.6	7.8	7.7	7.9	7.7	7.8	7.6	8.1	7.9	7.7	7.5
19	7.9	7.4	8.0	7.7	7.9	7.4	7.8	7.5	8.0	7.8	7.7	7.5
20	7.9	7.8	7.9	7.8	7.7	7.4	7.9	7.6	8.1	7.9	7.7	7.5
21	7.9	7.7	8.0	7.9	7.9	7.3	7.9	7.8	8.1	8.0	7.7	7.5
22	7.9	7.7	8.0	7.9	7.9	7.2	7.9	7.6	8.1	7.9	7.7	7.5
23	7.9	7.7	7.9	7.8	7.9	7.6	7.9	7.6	8.1	7.8	7.6	7.5
24	8.0	7.9	7.8	7.8	7.9	7.7	7.9	7.5	8.0	7.9	8.2	7.5
25	8.0	7.8	8.0	7.8	8.0	7.7	7.9	7.6	8.0	7.9	7.8	7.5
26	7.7	6.8	8.0	7.9	7.8	7.4	7.9	7.8	8.0	7.8	7.8	7.7
27	7.8	7.5	8.0	7.9	7.8	7.3	7.9	7.8	8.0	7.9	7.9	7.7
28	8.0	7.8	8.0	7.8	7.7	7.3	7.9	7.8	8.0	7.9	7.9	7.7
29	8.0	7.9	8.1	7.9	7.8	7.3	8.0	7.7	---	---	---	---
30	8.0	7.9	8.0	7.9	7.9	7.5	7.9	7.8	---	---	---	---
31	7.9	7.9	---	---	7.9	7.8	7.9	7.5	---	---	---	---
MONTH	8.0	6.8	8.1	7.1	8.2	7.2	8.0	6.9	8.1	7.4	8.2	6.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.8	7.7	7.9	7.6	7.6	7.4	7.6	7.6	7.8	7.7	7.7	7.5
2	7.8	7.6	7.8	7.6	7.6	7.5	7.7	7.6	7.8	7.6	7.7	7.5
3	7.8	7.5	7.8	7.6	7.6	7.4	7.7	7.6	7.9	7.8	7.7	7.5
4	7.8	7.6	7.7	7.5	7.6	7.4	7.7	7.5	7.9	7.8	7.7	7.5
5	7.8	7.6	7.7	7.6	7.5	7.4	7.8	7.5	7.9	7.8	7.7	7.6
6	7.8	7.7	7.8	7.6	7.4	7.2	7.8	7.7	7.9	7.8	7.7	7.6
7	7.7	7.6	7.9	7.6	7.4	7.3	7.7	7.6	7.9	7.8	7.7	7.5
8	7.7	7.6	7.9	7.6	7.4	7.2	7.7	7.6	7.8	7.7	7.7	7.5
9	7.7	7.6	7.8	7.6	7.3	7.2	7.7	7.6	7.8	7.8	7.7	7.5
10	7.7	7.6	7.8	7.6	7.5	7.2	7.7	7.5	7.8	7.8	7.7	7.5
11	7.7	7.6	7.8	7.5	7.5	7.4	7.8	7.6	7.8	7.7	7.7	7.5
12	7.7	7.6	7.7	7.5	7.6	7.5	7.8	7.6	7.9	7.7	7.7	7.5
13	7.7	7.6	7.6	7.5	7.5	7.4	7.8	7.6	7.9	7.8	7.7	7.6
14	7.8	7.7	7.6	7.5	7.5	7.4	7.7	7.6	7.9	7.8	7.8	7.6
15	7.8	7.6	7.6	7.5	7.4	7.3	7.8	7.6	7.9	7.8	7.6	7.4
16	7.8	7.7	7.6	7.5	7.4	7.3	7.9	7.7	7.9	7.8	7.6	7.5
17	7.8	7.7	7.6	7.5	7.5	7.3	7.9	7.8	7.9	7.8	7.6	7.5
18	7.8	7.6	7.7	7.5	7.5	7.4	7.9	7.7	7.9	7.8	7.6	7.3
19	7.8	7.6	7.7	7.5	7.5	7.4	7.9	7.7	7.8	7.8	7.6	7.5
20	7.8	7.7	7.7	7.5	7.5	7.4	7.9	7.7	7.9	7.8	7.6	7.6
21	7.9	7.6	7.7	7.5	7.5	7.3	7.9	7.7	7.9	7.8	7.6	7.5
22	7.8	7.6	7.6	7.5	7.6	7.3	7.9	7.7	7.8	7.7	7.7	7.5
23	7.9	7.6	7.6	7.5	7.6	7.5	7.8	7.6	7.8	7.6	7.7	7.6
24	7.9	7.6	7.6	7.4	7.6	7.5	7.9	7.7	7.8	7.6	7.7	7.5
25	7.8	7.6	7.5	7.3	7.6	7.5	7.8	7.6	7.7	7.6	7.7	7.6
26	7.8	7.6	7.5	7.4	7.6	7.5	7.8	7.7	7.7	7.6	7.7	7.6
27	7.6	7.5	7.6	7.5	7.6	7.5	7.9	7.7	7.7	7.5	7.7	7.7
28	7.8	7.6	7.6	7.6	7.7	7.6	7.9	7.7	7.7	7.5	7.8	7.6
29	7.7	7.6	7.6	7.5	7.6	7.6	7.8	7.6	7.7	7.4	7.7	7.5
30	7.9	7.6	7.6	7.1	7.6	7.6	8.1	7.8	7.7	7.5	7.7	7.5
31	---	---	7.5	7.5	---	---	8.0	7.8	7.8	7.6	---	---
MONTH	7.9	7.5	7.9	7.1	7.7	7.2	8.1	7.5	7.9	7.4	7.8	7.3
YEAR	8.2	6.5										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	16.0	13.5	12.0	7.0	6.0	---	---	3.0	2.5	3.5	3.0
2	19.0	16.0	13.0	11.0	7.5	6.5	4.5	2.5	3.0	2.0	4.0	3.0
3	18.0	16.5	13.5	11.0	9.0	6.5	2.5	1.0	3.0	2.0	4.5	2.5
4	19.0	16.5	13.5	12.0	9.0	7.5	2.0	1.0	4.0	2.5	5.0	3.5
5	18.0	17.0	14.5	12.5	7.0	6.5	2.0	1.5	2.5	1.0	5.0	4.5
6	17.0	15.5	14.5	13.5	7.0	6.5	2.5	1.5	1.0	1.0	4.5	3.5
7	15.5	14.5	13.5	12.0	8.5	7.0	2.5	2.0	2.5	1.0	4.0	2.5
8	15.5	14.5	12.0	10.5	9.0	7.0	2.5	1.5	3.0	2.0	5.0	3.5
9	15.0	13.5	11.5	9.5	---	---	1.5	1.0	2.5	1.5	5.0	4.0
10	16.5	13.5	11.5	10.5	---	---	2.0	1.0	1.5	1.0	6.0	4.5
11	17.0	16.0	13.0	11.0	---	---	1.0	1.0	1.0	1.0	5.0	3.5
12	18.5	16.5	13.0	12.5	5.0	3.5	2.5	1.0	1.5	1.0	4.5	3.0
13	18.0	15.5	13.5	12.5	5.0	4.5	4.5	2.5	1.5	1.0	7.0	3.5
14	15.5	14.0	14.5	13.0	4.5	4.5	4.5	3.0	1.5	1.0	7.5	5.0
15	14.0	13.5	13.0	11.5	5.0	4.0	3.5	1.5	3.5	1.5	5.0	4.0
16	13.5	12.5	11.0	10.5	5.5	4.5	2.5	1.5	3.5	2.0	5.5	3.5
17	13.0	11.5	12.0	10.5	5.5	4.5	3.5	2.5	2.0	1.0	7.0	5.0
18	13.5	12.0	12.0	11.0	5.0	4.0	3.5	2.5	1.0	1.0	9.0	7.0
19	14.5	13.5	11.0	10.5	5.0	4.0	2.5	2.0	2.0	1.0	9.5	8.5
20	15.0	13.5	10.0	10.0	6.0	4.5	4.5	2.5	3.5	1.5	11.0	8.5
21	15.5	13.0	9.5	9.0	6.5	5.5	5.0	4.5	5.0	3.5	12.0	9.5
22	16.0	14.0	9.5	9.0	5.5	4.5	4.5	3.5	5.5	4.5	12.5	10.0
23	16.0	14.0	10.5	9.5	5.5	5.0	4.0	3.0	4.5	2.0	13.5	11.5
24	14.0	13.0	10.5	9.0	5.5	4.5	4.5	4.0	2.5	2.0	12.5	10.0
25	13.5	11.5	8.5	8.0	5.0	4.0	4.5	2.5	2.5	1.0	9.5	8.0
26	14.5	13.0	8.0	7.5	4.0	3.0	3.5	2.5	2.0	1.5	7.5	6.5
27	14.5	13.0	7.5	5.5	3.0	2.5	4.0	3.5	3.5	2.0	7.5	6.0
28	13.0	12.0	8.0	5.0	3.0	2.5	4.5	3.5	3.5	2.0	8.0	5.5
29	12.5	11.0	6.5	5.5	3.5	2.5	4.0	3.0	---	---	9.5	7.5
30	12.5	10.5	7.5	5.5	5.0	3.5	3.5	3.0	---	---	11.0	9.5
31	13.0	11.0	---	---	6.5	5.0	4.0	3.0	---	---	11.5	10.5
MONTH	20.0	10.5	14.5	5.5	9.0	2.5	5.0	1.0	5.5	1.0	13.5	2.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.5	9.5	15.5	12.5	18.5	16.5	22.0	20.5	27.0	24.0	26.0	23.5
2	11.0	9.5	16.5	13.0	20.5	18.0	20.0	19.5	24.5	22.5	25.0	24.0
3	11.0	10.0	16.5	15.0	21.5	18.5	21.5	19.0	26.5	23.5	25.5	23.0
4	10.0	8.5	15.5	14.0	22.5	20.0	22.5	19.5	27.5	24.5	25.0	23.0
5	9.0	8.0	15.5	12.5	22.5	21.5	22.0	19.0	26.5	24.5	25.5	23.0
6	8.5	7.0	18.0	14.0	23.5	21.5	23.0	19.5	26.5	24.0	26.0	24.0
7	8.5	6.0	21.0	15.0	24.5	22.5	23.5	20.5	26.5	23.5	25.0	22.5
8	8.0	7.0	23.0	15.5	25.0	23.0	24.5	21.5	27.0	25.5	22.5	19.5
9	7.5	6.0	24.5	21.0	25.0	23.5	24.0	20.5	26.0	25.0	20.5	18.0
10	8.0	6.5	25.0	22.5	26.5	23.5	24.0	20.5	25.5	24.0	21.5	19.0
11	8.5	5.5	25.0	23.0	24.0	21.5	26.0	23.0	24.5	22.5	23.5	20.5
12	11.5	6.5	24.5	19.0	23.0	20.5	26.0	23.0	23.0	20.5	23.5	21.0
13	12.0	11.0	19.5	18.0	23.0	19.5	25.5	23.0	23.0	20.0	24.0	22.0
14	12.5	10.5	21.0	17.5	23.5	20.5	25.5	22.5	23.0	21.5	23.0	19.5
15	12.5	10.5	21.5	19.5	25.5	22.0	27.5	25.0	22.0	19.5	19.5	18.5
16	10.5	9.5	21.0	18.5	26.0	24.0	28.5	25.5	20.5	17.5	19.0	18.0
17	11.5	9.0	21.0	17.5	26.0	23.5	27.0	25.5	20.0	18.5	19.0	17.5
18	12.5	9.5	22.0	18.5	25.0	21.0	25.5	23.5	20.5	18.5	19.5	18.0
19	13.5	10.5	22.0	19.5	23.5	19.5	25.0	22.0	23.5	20.5	19.0	18.0
20	14.5	11.5	23.0	21.0	25.0	20.5	25.5	21.5	23.0	22.0	18.5	17.0
21	16.0	13.0	21.5	20.0	24.0	22.0	26.0	22.5	23.5	21.5	18.0	17.0
22	16.0	14.5	21.5	19.0	25.5	22.0	25.0	22.5	24.5	21.5	18.0	17.5
23	17.5	14.0	20.5	18.5	24.5	20.0	25.0	21.5	24.0	22.5	18.0	16.0
24	17.5	15.0	19.0	14.0	21.0	18.5	26.0	24.0	23.5	22.5	18.0	15.5
25	20.5	17.0	14.0	12.0	22.0	18.5	26.5	25.0	23.0	21.0	19.0	16.0
26	20.0	18.0	12.0	11.5	23.5	20.0	25.5	24.5	22.0	21.0	19.5	17.5
27	18.0	14.0	14.0	11.5	24.5	21.5	26.5	23.5	22.0	21.0	19.5	18.0
28	14.0	12.5	15.0	13.5	25.0	22.5	26.0	24.0	22.5	20.0	19.0	18.0
29	13.5	12.5	16.0	14.0	24.0	23.0	26.5	23.5	23.0	21.5	20.5	18.5
30	14.5	11.5	16.0	14.5	23.0	22.0	27.0	24.5	25.5	22.5	21.0	19.5
31	---	---	16.5	15.0	---	---	28.0	25.5	26.0	23.5	---	---
MONTH	20.5	5.5	25.0	11.5	26.5	16.5	28.5	19.0	27.5	17.5	26.0	15.5
YEAR	28.5	1.0										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	12.6	10.9	12.8	12.4
2	---	---	---	---	---	---	9.8	9.2	11.1	10.1	13.2	12.2
3	---	---	---	---	---	---	10.0	9.5	11.0	10.4	12.3	11.9
4	---	---	---	---	---	---	10.3	9.5	10.7	10.2	11.9	11.4
5	---	---	---	---	---	---	10.3	10.2	10.8	10.3	11.7	11.4
6	---	---	---	---	11.2	10.9	12.1	12.0	11.0	10.6	11.9	11.6
7	---	---	8.6	7.8	11.0	10.3	12.0	11.6	10.6	9.9	12.1	11.8
8	---	---	9.8	7.5	10.8	9.5	11.9	11.6	10.0	9.6	11.8	11.5
9	---	---	10.1	7.6	---	---	11.8	11.6	10.1	9.8	11.7	11.5
10	---	---	10.1	7.9	---	---	11.8	11.6	10.2	9.9	11.5	11.2
11	9.2	7.6	10.4	7.6	12.5	12.3	12.0	11.6	10.2	9.6	11.6	11.2
12	8.0	5.9	7.9	6.7	12.4	12.0	11.8	11.3	9.8	9.2	11.7	11.3
13	8.1	5.6	9.0	7.0	12.0	11.7	11.3	10.5	9.6	9.0	11.5	10.5
14	9.5	6.0	8.3	6.4	12.0	11.8	10.9	9.4	9.3	8.8	10.9	10.3
15	9.5	9.1	7.8	6.4	12.0	11.5	12.0	10.5	8.8	8.1	11.4	10.4
16	9.8	9.2	9.4	6.5	11.7	11.4	12.0	11.6	8.2	7.7	11.5	11.1
17	10.1	9.4	7.4	6.3	11.6	11.2	11.6	10.6	8.3	7.6	11.2	10.7
18	10.0	9.3	6.4	5.1	12.0	11.5	11.6	10.8	8.1	7.2	10.7	10.1
19	9.7	6.9	8.3	6.0	11.7	11.1	11.7	11.5	7.2	6.5	10.2	9.9
20	9.7	6.7	8.0	6.4	11.3	10.6	11.5	10.7	6.5	5.6	10.1	9.3
21	9.8	8.7	8.3	7.1	10.7	8.6	10.7	9.5	5.8	4.4	9.7	9.0
22	9.7	6.5	8.1	5.8	11.2	10.3	10.9	9.8	5.3	4.1	9.5	8.9
23	8.8	6.0	7.1	5.4	11.3	10.9	11.0	10.5	9.6	5.1	9.1	8.1
24	9.8	6.3	6.6	5.8	11.2	10.6	10.4	9.5	12.0	9.9	9.5	6.8
25	9.5	6.0	8.1	5.7	11.2	10.8	10.9	8.9	12.5	12.1	10.4	9.2
26	8.1	6.3	8.0	6.8	11.7	11.1	10.9	10.6	12.9	12.2	11.0	10.2
27	7.6	5.2	7.7	6.8	11.8	11.3	10.7	10.2	13.0	12.8	11.0	10.5
28	8.4	7.3	7.6	5.7	11.6	10.9	10.3	9.9	13.1	12.6	11.0	10.7
29	7.7	7.0	8.5	7.5	10.9	10.1	10.7	10.0	---	---	10.9	10.1
30	7.3	6.5	8.0	7.2	10.0	8.9	11.0	10.6	---	---	10.3	9.8
31	---	---	---	---	8.9	8.2	11.0	10.5	---	---	10.3	9.8
MONTH	10.1	5.2	10.4	5.1	12.5	8.2	12.1	8.9	13.1	4.1	13.2	6.8

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.5	10.1	9.0	8.2	8.9	8.1	5.0	3.7	6.3	4.5	6.1	5.3
2	10.3	9.6	8.7	6.0	8.1	7.7	6.3	4.9	6.8	5.5	5.8	5.0
3	10.3	9.7	7.6	7.1	7.9	7.2	5.7	5.0	7.2	6.4	5.7	5.1
4	10.4	10.2	7.9	6.5	7.7	7.2	6.4	3.0	6.9	5.9	5.9	5.2
5	10.6	10.2	8.7	7.8	7.2	6.3	7.5	4.0	6.6	5.6	5.8	5.2
6	10.8	10.3	8.6	7.5	6.9	5.7	6.5	5.1	6.8	6.2	5.4	4.5
7	10.9	10.5	8.5	5.9	6.6	5.9	6.0	4.8	7.0	5.8	5.0	4.5
8	10.6	10.4	8.4	5.3	6.4	5.0	5.7	4.2	6.2	5.0	5.8	4.7
9	10.7	10.2	8.2	5.7	6.1	5.1	5.5	3.8	6.1	5.0	6.4	5.4
10	11.0	10.6	7.7	4.4	6.3	5.1	5.8	4.8	5.9	4.9	5.9	5.3
11	10.7	10.4	7.5	4.0	6.6	5.5	5.5	4.5	5.6	4.5	5.4	4.7
12	10.4	9.5	6.8	4.7	6.9	5.7	5.9	4.7	7.2	5.0	5.4	4.3
13	9.6	9.3	7.0	5.3	6.4	5.7	6.2	4.8	7.1	5.8	5.2	3.9
14	9.7	9.3	7.9	5.2	7.2	5.3	6.3	5.0	6.7	5.5	6.3	5.1
15	9.9	9.1	6.6	5.7	6.1	4.9	6.4	4.8	6.4	5.4	6.6	6.0
16	10.2	9.8	7.2	5.5	5.7	4.5	7.2	4.7	7.0	5.7	6.7	6.5
17	10.1	9.8	7.6	5.8	5.6	4.1	8.0	4.6	6.4	5.4	6.7	6.3
18	9.9	9.6	7.7	5.8	5.1	3.9	7.9	5.0	6.2	5.3	6.7	6.2
19	9.6	9.2	7.7	5.4	6.0	4.8	7.7	5.2	6.2	4.6	6.8	6.2
20	9.5	8.9	8.2	5.3	5.5	4.3	7.6	5.1	5.9	4.3	6.8	6.5
21	9.3	8.4	7.9	4.5	4.8	3.0	8.0	5.1	5.8	4.1	6.6	6.2
22	9.0	7.9	8.3	5.3	6.0	4.4	7.4	5.2	6.0	3.9	6.4	5.7
23	9.0	6.3	7.8	5.5	5.0	4.1	6.7	5.5	5.9	3.7	6.4	6.0
24	8.3	6.9	8.1	5.6	5.8	4.3	6.8	4.8	6.1	5.0	6.8	6.5
25	7.7	6.9	9.9	7.4	6.3	4.6	6.3	3.9	6.5	5.8	6.7	6.1
26	7.2	6.2	10.5	10.0	6.1	4.6	6.9	4.5	6.4	5.6	6.1	5.7
27	8.3	6.0	10.4	10.0	5.8	3.9	6.9	4.7	6.9	5.4	6.0	5.4
28	9.9	6.3	10.1	9.9	5.8	4.0	6.1	4.2	7.8	5.6	5.8	5.1
29	9.3	6.8	9.9	9.5	5.1	3.9	7.0	4.3	7.0	4.3	5.7	4.8
30	9.1	6.5	9.6	8.9	4.8	4.1	8.5	5.3	6.7	6.2	5.6	5.0
31	---	---	9.4	8.9	---	---	7.7	5.0	6.4	5.6	---	---
MONTH	11.0	6.0	10.5	4.0	8.9	3.0	8.5	3.0	7.8	3.7	6.8	3.9
YEAR	13.2	3.0										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
AUG 28...	0730	3500	2090	19800	34	48	63	82	95	97	99	100

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 18...	1000	495	12.0	17
NOV 14...	1015	245	14.0	2.0
DEC 06...	1130	736	7.0	40
JAN 11...	0900	508	1.0	16
FEB 01...	0930	578	2.5	23
MAR 06...	1100	4590	4.0	348
APR 09...	1400	4670	6.5	521
MAY 08...	1130	503	20.0	8.0
JUN 14...	1000	469	20.5	15
JUL 18...	0900	314	23.5	12
AUG 01...	1030	432	26.0	41
SEP 11...	1700	279	23.5	15

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	81	127	4	3.0	12	10	833	9000	20	30	258	2010
2	15	15	5	3.6	9	7.4	472	5070	22	29	324	3310
3	9	6.3	6	4.1	111	367	180	933	18	22	312	3720
4	85	129	5	3.3	265	1160	135	518	17	19	1210	24600
5	18	17	6	3.9	90	245	95	309	15	16	681	13600
6	27	20	7	4.4	44	87	77	270	7	7.4	308	3830
7	88	146	9	5.9	33	57	52	185	14	14	342	3680
8	27	44	8	5.5	138	542	40	99	27	27	258	2570
9	16	21	7	4.7	234	1550	22	40	15	15	211	1780
10	13	16	6	4.0	118	497	9	13	25	24	183	1340
11	12	14	5	3.5	64	185	26	32	32	31	151	872
12	20	27	5	3.3	36	90	38	43	14	14	142	659
13	308	1270	8	5.1	30	70	20	22	17	17	123	492
14	123	375	10	7.0	24	49	98	220	20	21	108	417
15	67	140	9	7.0	25	44	56	117	15	14	97	291
16	36	60	9	5.2	41	59	34	50	12	11	73	211
17	23	34	17	13	34	44	20	27	27	24	65	175
18	17	22	42	51	22	26	33	47	24	21	54	139
19	15	15	8	5.7	28	31	22	26	20	18	49	119
20	14	15	12	9.0	32	37	15	18	18	16	56	129
21	13	14	9	5.5	58	80	16	22	23	26	42	87
22	13	13	11	7.5	28	36	17	22	93	188	38	73
23	13	12	13	9.6	18	22	12	14	311	3560	37	65
24	13	12	17	15	17	21	52	116	630	8900	558	3940
25	9	7.3	6	4.6	18	23	135	386	314	2710	838	5510
26	49	87	6	4.3	16	19	34	73	479	5100	130	562
27	65	96	22	21	10	11	48	88	202	1490	52	189
28	19	21	82	155	11	11	44	78	152	1040	58	233
29	11	11	23	25	12	11	25	45	---	---	477	4280
30	7	5.4	13	13	15	15	20	34	---	---	175	1430
31	7	5.7	---	---	394	1600	17	28	---	---	126	850
TOTAL	---	2810.7	---	417.9	---	7106.4	---	17944	---	23404.4	---	81152
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	110	630	23	45	92	405	95	153	68	106	27	39
2	283	2700	40	74	68	224	110	185	1030	7490	23	31
3	307	3140	12	22	53	140	25	37	128	321	26	31
4	245	2380	18	33	36	77	178	475	58	93	142	259
5	235	2500	13	21	37	73	71	135	112	246	36	45
6	162	1280	10	15	51	128	12	15	98	191	22	23
7	144	675	8	11	15	24	8	5.8	29	33	34	46
8	124	639	5	6.8	18	28	7	6.8	21	20	15	16
9	363	3970	9	11	31	47	319	1650	19	15	8	6.9
10	170	1350	16	23	175	369	288	758	25	22	9	7.2
11	84	492	40	48	169	499	159	359	192	436	12	9.7
12	84	479	31	52	24	43	312	852	44	56	12	9.7
13	96	529	65	137	12	17	533	3260	14	12	35	29
14	135	925	11	14	14	18	417	1490	13	10	2780	97000
15	88	530	18	22	8	9.0	93	118	14	9.8	1190	52200
16	68	347	23	27	8	7.6	22	25	13	8.5	355	6590
17	48	219	14	15	7	6.2	17	17	13	8.2	370	3340
18	49	193	17	17	7	5.9	11	9.0	109	170	304	2380
19	57	195	14	13	8	6.2	13	9.3	29	31	224	1350
20	43	131	15	13	11	8.9	15	10	8	6.2	181	850
21	36	98	75	111	150	372	14	9.7	89	173	143	533
22	36	94	14	14	38	55	205	432	21	28	118	357
23	33	78	11	10	12	11	495	731	359	1170	92	229
24	36	88	167	710	9	8.5	34	35	267	1020	71	152
25	42	84	907	18100	11	10	15	14	299	933	52	97
26	43	88	375	7050	8	7.1	14	13	96	150	41	69
27	105	350	235	2250	9	7.3	14	12	36	60	31	49
28	38	94	114	705	27	26	259	618	913	6170	185	538
29	18	37	114	674	25	27	246	345	457	2200	103	268
30	22	43	103	551	43	58	12	13	166	433	30	53
31	---	---	91	410	---	---	11	9.5	35	54	---	---
TOTAL	---	24558	---	31205.8	---	2717.7	---	11857.2	---	21555.7	---	157107.4

TOTAL LOAD FOR YEAR: 391957.2 TONS.

04208502 BIG CREEK AT CLEVELAND, OH

LOCATION.--Lat 41°27'01", long 81°43'18", Cuyahoga County, Hydrologic Unit 04110002, on right bank 8 ft (2 m) downstream from footbridge in Brookside Park, 0.2 mi (0.3 km) upstream from bridge on Fulton Road and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--35.3 mi^2 (91.4 km^2).

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.7 ft (189.19 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair except those for February, which are poor. Flow slightly regulated by industry upstream from station. Water-quality data collected at this site 1972 to 1977.

AVERAGE DISCHARGE.--7 years, 51.2 ft^3/s (1.450 m^3/s), 19.70 in/yr (500 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft^3/s (258 m^3/s) Aug. 24, 1975, gage height, 16.20 ft (4.938 m) (from floodmarks), from rating curve extended above 500 ft^3/s (14.2 m^3/s) on basis of slope-area measurements of peak flow; minimum daily, 2.3 ft^3/s (0.065 m^3/s) Sept. 16-17, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,200 ft^3/s (34.0 m^3/s) and maximums (*):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)	Date	Time	(ft^3/s)	(m^3/s)	(ft)	(m)
Feb. 23	1245	*1800	51.0	*9.58	2.920	Aug. 24	2230	1240	35.1	7.80	2.377
June 20	2345	1290	36.5	7.95	2.423	Sept. 14	0900	1740	49.3	9.38	2.859

Minimum daily discharge, 8.8 ft^3/s (0.25 m^3/s) Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	15	25	387	16	195	55	18	65	58	162	16
2	22	17	17	103	15	179	135	18	30	78	85	55
3	35	14	230	35	14	225	59	43	25	23	17	29
4	92	15	120	26	13	324	157	25	23	69	13	35
5	50	17	33	19	13	179	97	19	23	23	82	23
6	101	18	25	18	13	72	104	17	22	19	26	19
7	87	26	46	16	13	51	44	18	21	17	13	16
8	33	16	203	15	13	43	59	18	21	14	10	17
9	23	13	116	14	12	39	301	18	88	198	9.8	19
10	17	14	36	13	12	59	75	18	74	47	28	15
11	18	16	27	13	12	37	44	18	62	59	51	14
12	28	16	25	13	12	28	80	99	26	34	11	15
13	133	16	23	36	12	26	93	46	18	35	10	19
14	150	42	22	116	12	35	233	21	17	26	13	681
15	32	19	21	25	16	22	83	23	18	18	11	60
16	28	16	20	19	13	18	46	17	17	17	8.8	27
17	21	87	20	16	12	17	36	15	16	17	10	21
18	18	34	19	14	12	20	30	14	16	15	97	18
19	17	18	18	13	12	19	26	16	15	13	21	17
20	17	16	26	13	12	21	25	18	95	13	23	14
21	19	15	28	14	12	19	23	20	181	12	35	14
22	17	15	18	16	50	17	27	15	27	44	21	14
23	31	69	18	19	547	23	21	17	18	27	55	15
24	19	36	19	131	246	138	20	170	17	14	235	14
25	16	24	28	56	93	60	20	853	16	15	122	14
26	93	23	15	32	63	47	31	544	15	20	30	13
27	34	103	14	26	71	39	71	133	15	15	49	13
28	21	56	13	22	78	165	29	55	34	17	193	104
29	19	28	13	19	---	259	24	39	56	13	60	29
30	18	26	56	18	---	138	21	31	51	10	25	15
31	16	---	181	17	---	65	---	46	---	25	18	---
TOTAL	1275	840	1475	1294	1419	2579	2079	2422	1122	1005	1544.6	1375
MEAN	41.1	28.0	47.6	41.7	50.7	83.2	69.3	78.1	37.4	32.4	49.8	45.9
MAX	150	103	230	387	547	324	301	853	181	198	235	681
MIN	16	13	13	13	12	17	20	14	15	10	8.8	13
CFSM	1.16	.79	1.35	1.18	1.44	2.36	1.96	2.21	1.06	.92	1.41	1.30
IN.	1.34	.89	1.55	1.36	1.50	2.72	2.19	2.55	1.18	1.06	1.63	1.45

CAL YR 1978 TOTAL 16978.0 MEAN 46.5 MAX 818 MIN 9.5 CFSM 1.32 IN 17.89
WTR YR 1979 TOTAL 18430.6 MEAN 50.5 MAX 853 MIN 8.8 CFSM 1.43 IN 19.42

04208503 CUYAHOGA RIVER AT LOWER HARVARD BRIDGE IN CLEVELAND, OH

LOCATION.--Lat 41°26'51", long 81°41'05", Cuyahoga County, Hydrologic Unit 04110002, at bridge on Harvard Avenue in Cleveland and 0.2 mi (0.3 km) downstream from Big Creek.

DRAINAGE AREA.--786 mi² (2036 km²).

PERIOD OF RECORD.--October 1977 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
SEP												
15...	1100	15900	348	7.2	18.0	6.4	38	50	33	8.6	212	.29
15...	1300	15000	356	7.2	18.5	6.4	39	52	34	7.7	209	.29
15...	1730	13000	402	7.0	--	--	44	53	42	7.1	229	.31
15...	1930	12200	381	7.2	19.0	6.7	39	55	39	7.6	221	.30
15...	2000	11800	380	7.2	--	--	48	56	39	7.8	219	.30
16...	0915	8900	383	7.2	--	--	45	61	45	9.0	250	.34
16...	1045	8600	416	7.2	--	--	45	57	43	9.3	240	.33
16...	1230	8060	410	7.2	--	--	41	62	46	9.7	253	.34
16...	1415	7700	420	7.2	19.0	6.6	43	61	46	8.3	255	.35
16...	1500	7600	422	7.3	--	--	42	65	47	8.1	245	.33

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP												
15...	9080	457	1.4	.09	2.8	2.9	4.3	19	.60	.04	.12	7.5
15...	8460	415	.13	.07	2.5	2.5	2.7	12	.65	.04	.12	7.4
15...	7990	317	1.3	.06	2.7	2.7	4.1	18	.55	.06	.19	7.9
15...	7280	302	1.3	.01	2.4	2.4	3.7	17	.60	.07	.21	8.2
15...	6980	292	1.2	.07	2.8	2.8	4.1	18	.54	.08	.25	8.1
16...	6000	285	1.2	.06	2.8	2.8	4.1	18	.50	.06	.19	8.0
16...	5560	283	1.2	.16	2.5	2.6	3.9	17	.47	.08	.25	8.1
16...	5510	288	1.2	.10	2.7	2.7	4.1	18	.49	.07	.21	8.1
16...	5300	274	1.3	.13	2.4	2.5	3.9	17	.49	.06	.19	8.3
16...	5030	302	1.4	.07	2.6	2.6	4.0	18	.50	.07	.21	8.4

04208504 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH

LOCATION.--Lat 41°29'17", long 81°41'07", in T.7 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank just upstream from bridge on West Third Street in Cleveland, 3.0 mi (4.8 km) upstream from mouth, and 1.2 mi (1.9 km) downstream from turning basin.

DRAINAGE AREA.--798 mi² (2,067 km²).

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: November 1966 to current year.
pH: November 1966 to current year.
WATER TEMPERATURES: November 1966 to current year.
DISSOLVED OXYGEN: November 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. No discharge records available.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos July 16, 17, 1977; minimum, 318 micromhos July 12, 1976.
pH: Maximum, 9.3 units Sept. 14, 1969; minimum, 4.3 units May 16, 1969.
WATER TEMPERATURES: Maximum, 35.0°C July 24, 1967; minimum, 1.0°C Jan. 1, 1969.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L on several days during 1968, 1970; minimum, 0.0 mg/L on many days during 1967, 1968, 1971 to 1974, 1977 to 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,920 micromhos Feb. 22; minimum, 396 micromhos Sept. 14.
pH: Maximum, 8.2 units Dec. 12, Jan. 20, 30, Feb. 5, 6, 25, 26; minimum, 4.6 units Jan. 1.
WATER TEMPERATURES: Maximum, 30.0°C Aug. 1; minimum, 2.0°C Jan. 3.
DISSOLVED OXYGEN: Maximum, 12.5 mg/L Feb. 26; minimum, 0.0 mg/L Oct. 2, May 13, July 28.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1090	907	948	909	1030	963	1120	657	1580	1460	1330	1120
2	1040	913	981	933	1090	993	724	591	1550	1450	1090	900
3	1050	939	999	981	1080	861	810	730	1550	1410	930	810
4	966	765	951	942	892	717	839	826	1410	1310	793	702
5	924	765	945	930	764	702	723	699	1320	1310	747	675
6	1040	927	963	933	807	753	693	648	1340	1260	741	699
7	951	754	975	957	837	798	747	657	1300	1260	750	666
8	858	765	957	927	837	633	792	741	1330	1290	691	657
9	888	869	996	924	717	621	819	762	1380	1290	678	650
10	885	837	1030	1010	771	705	852	804	1370	1330	756	655
11	867	863	1020	1000	717	666	870	831	1340	1300	765	741
12	876	824	1040	1010	780	694	885	843	1340	1240	780	765
13	882	864	1060	1040	795	750	948	849	1260	1220	876	783
14	648	579	1040	999	807	738	2150	954	1310	1240	894	843
15	729	705	1100	1040	897	792	1770	1570	1390	1270	924	864
16	789	720	1140	1060	954	888	1690	1360	1350	1270	876	852
17	815	789	1150	1040	936	860	1350	1110	1430	1290	906	864
18	873	819	1030	987	876	837	1470	1190	1450	1370	930	888
19	869	804	968	955	885	846	1630	1430	1360	1180	962	903
20	831	806	999	965	894	863	1520	1440	1170	1120	999	912
21	852	815	962	957	924	873	---	---	1770	1180	1070	960
22	903	855	966	960	1160	918	1700	1250	2920	1850	1070	1020
23	897	873	1080	987	1150	978	1850	1730	2560	1360	1060	1010
24	870	849	1100	1010	990	906	2000	1860	1300	1030	1100	1030
25	861	852	1030	981	951	918	2390	1810	1060	1010	1090	873
26	960	859	1080	1020	1110	951	---	---	1060	875	951	885
27	891	780	1050	986	1200	1110	---	---	1180	956	1070	966
28	863	780	1330	1050	1150	1110	---	---	1290	1190	996	768
29	834	740	1260	1130	1210	1150	1790	1670	---	---	837	792
30	894	837	1130	1040	1170	1160	1790	1690	---	---	810	774
31	912	891	---	---	1410	1160	1770	1570	---	---		
MONTH	1090	579	1330	956	1410	621	2390	591	2920	875	1330	657

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	978	962	747	726	1190	1120	1150	1070	896	885
2	---	---	966	933	783	738	1200	939	1070	570	933	891
3	---	---	951	933	810	780	941	565	729	636	972	912
4	---	---	1060	962	852	813	1090	993	867	735	915	891
5	---	---	1110	1060	873	825	1050	962	891	861	990	927
6	---	---	1100	1060	965	870	1010	919	873	855	975	933
7	---	---	1070	1040	939	900	957	900	900	856	950	939
8	---	---	1060	1040	999	933	993	956	963	906	959	953
9	---	---	1080	1060	1030	1000	1050	705	1080	963	1000	972
10	---	---	1140	1070	1010	888	919	590	1170	1070	999	975
11	---	---	1190	1140	978	780	870	813	1170	969	990	941
12	---	---	1190	1010	957	780	926	795	963	942	1100	990
13	---	---	1010	874	1100	957	869	725	930	897	1190	1090
14	---	---	963	894	1120	1100	837	512	909	894	1190	395
15	---	---	996	857	1110	1030	759	530	960	912	652	402
16	---	---	1050	975	1040	1010	856	780	1010	963	492	455
17	---	---	1070	1050	1060	1010	897	854	1120	1030	536	492
18	---	---	1080	1070	1060	1040	933	897	1280	1120	555	519
19	---	---	1130	1080	1100	1050	941	935	1220	999	579	565
20	---	---	1140	111	1110	780	1040	996	1310	1060	630	592
21	---	---	1120	1030	1050	783	1090	1040	1280	1200	723	662
22	---	---	1050	1010	900	852	1120	1010	1320	1190	741	717
23	---	---	1130	1060	912	876	1020	921	1320	876	744	720
24	---	---	1120	930	996	912	935	864	957	536	795	739
25	---	---	855	528	1070	999	957	870	575	570	801	765
26	---	---	594	563	1070	1040	1030	956	784	687	856	798
27	---	---	581	597	1050	1030	1150	1030	960	798	975	856
28	---	---	720	586	1070	1040	1230	1180	1010	573	996	776
29	---	---	732	599	1130	1070	1290	1230	831	645	822	750
30	1130	981	735	702	1170	1120	1310	1150	919	723	801	771
31	---	---	738	717	---	---	1150	1100	885	807	---	---
MONTH	1130	981	1190	528	1170	726	1310	512	1320	570	1190	395
YEAR	2920	395										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.5	7.4	7.6	7.5	7.8	7.7	6.9	4.5	7.9	7.1	7.8	7.2
2	7.6	7.3	7.5	7.5	7.9	7.7	8.1	7.4	7.8	7.2	8.0	7.4
3	7.5	7.3	7.5	7.4	7.9	7.7	8.1	7.9	7.9	7.2	8.0	7.7
4	7.4	7.4	7.6	7.4	7.8	7.6	8.0	7.6	8.1	7.6	8.1	7.8
5	7.6	7.4	7.6	7.4	7.8	7.7	7.9	7.7	8.2	8.1	8.1	7.9
6	7.6	7.4	7.7	7.5	8.1	7.9	7.9	7.5	8.2	7.7	8.0	7.8
7	7.5	7.4	7.7	7.7	8.1	7.9	7.8	7.3	8.1	7.5	7.9	7.8
8	7.5	7.4	7.7	7.6	8.0	7.8	7.9	7.4	8.1	7.6	8.0	7.7
9	7.6	7.5	7.7	7.5	8.0	7.7	8.0	7.7	8.1	7.8	8.0	7.8
10	7.7	7.5	7.7	7.6	8.1	7.7	7.9	7.7	8.0	7.8	8.0	7.7
11	7.6	7.3	7.7	7.5	8.1	7.8	7.9	7.6	8.1	7.7	8.0	7.7
12	7.5	7.4	7.6	7.6	8.2	8.0	7.8	7.4	8.0	7.8	8.1	7.9
13	7.6	7.4	7.7	7.6	8.1	8.0	7.6	7.0	7.9	7.8	8.0	7.8
14	7.7	7.5	7.8	7.6	8.1	8.0	7.5	6.9	7.9	7.6	7.8	7.5
15	7.7	7.5	7.7	7.6	8.1	7.1	7.8	7.5	7.9	7.5	8.0	7.8
16	7.8	7.6	7.7	7.6	7.4	6.3	7.6	7.4	8.0	7.2	7.8	7.5
17	7.7	7.5	7.7	7.6	7.6	7.2	7.7	7.3	8.0	7.8	8.0	7.8
18	7.7	7.4	7.7	7.5	7.6	7.0	8.0	7.5	7.9	7.8	8.0	7.8
19	7.6	7.4	7.7	7.6	7.5	7.3	7.8	7.6	7.9	7.6	8.0	7.9
20	7.7	7.6	7.7	7.6	7.5	7.1	8.2	7.0	7.9	7.0	8.0	7.8
21	7.7	7.5	7.7	7.5	7.8	7.6	---	---	7.6	7.1	8.0	7.7
22	7.5	7.4	7.7	7.5	7.9	7.6	7.6	7.1	7.9	6.9	7.9	7.8
23	7.6	7.5	7.7	7.6	7.8	7.7	8.1	7.5	7.9	6.9	7.8	7.7
24	7.7	7.5	7.8	7.6	7.8	7.4	7.8	7.1	7.7	5.4	8.1	7.8
25	7.5	7.4	7.8	7.7	7.6	7.4	7.5	7.3	8.2	7.6	8.0	7.9
26	7.4	7.5	7.8	7.7	7.6	7.2	---	---	8.2	7.7	8.0	7.9
27	7.6	7.3	7.8	7.7	7.7	7.3	---	---	7.7	6.6	7.8	7.7
28	7.6	7.5	7.9	7.5	7.7	7.4	---	---	7.8	7.0	---	---
29	7.5	7.5	7.9	7.5	7.8	7.0	8.1	7.8	---	---	---	---
30	7.6	7.5	7.9	7.8	7.4	5.3	8.2	7.9	---	---	8.0	7.9
31	7.5	7.4	---	---	6.7	5.1	7.9	7.9	---	---	8.1	8.0
MONTH	7.8	7.3	7.9	7.4	8.2	5.1	8.2	4.5	8.2	5.4	8.1	7.2

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.8	7.7	7.5	7.3	7.3	7.3	7.4	7.3	7.5	7.4
2	---	---	7.8	7.6	7.5	7.3	7.4	7.3	7.4	7.3	7.4	7.4
3	---	---	7.7	7.6	7.5	7.3	7.5	7.3	7.4	7.2	7.4	7.3
4	---	---	7.7	7.6	7.4	7.2	7.4	7.3	7.4	7.3	7.4	7.3
5	---	---	7.7	7.5	7.3	7.2	7.4	7.3	7.4	7.3	7.4	7.3
6	---	---	7.7	7.5	7.4	7.2	7.4	7.2	7.3	7.3	7.4	7.3
7	---	---	7.7	7.5	7.4	7.2	7.3	7.2	7.4	7.2	7.4	7.3
8	---	---	7.7	7.5	7.3	7.2	7.3	7.2	7.3	7.2	7.5	7.4
9	---	---	7.6	7.5	7.2	7.2	7.3	7.2	7.3	7.3	7.5	7.4
10	---	---	7.6	7.5	7.2	7.1	7.3	7.2	7.3	7.3	7.5	7.4
11	---	---	7.6	7.5	7.3	7.2	7.3	7.2	7.4	7.3	7.5	7.4
12	---	---	7.6	7.5	7.3	7.1	7.3	7.2	7.4	7.3	7.5	7.3
13	---	---	7.7	7.4	7.2	7.1	7.3	7.2	7.3	7.2	7.5	7.4
14	---	---	7.6	7.4	7.3	7.2	7.3	7.2	7.3	7.2	7.7	7.4
15	---	---	7.6	7.5	7.2	7.1	7.3	7.1	7.4	7.3	7.6	7.5
16	---	---	7.6	7.5	7.2	7.0	7.3	7.2	7.4	7.3	7.6	7.5
17	---	---	7.7	7.5	7.1	7.1	7.3	7.2	7.4	7.3	7.6	7.4
18	---	---	7.6	7.5	7.2	7.1	7.3	7.2	7.4	7.3	7.6	7.4
19	---	---	7.6	7.5	7.2	7.1	7.3	7.2	7.4	7.3	7.6	7.5
20	---	---	7.7	7.5	7.2	7.1	7.4	7.2	7.4	7.3	7.7	7.5
21	---	---	7.7	7.3	7.2	7.1	7.3	7.2	7.4	7.3	7.7	7.4
22	---	---	7.3	7.2	7.2	7.1	7.3	7.2	7.4	7.3	7.6	7.5
23	---	---	7.2	7.1	7.2	7.2	7.3	7.2	7.4	7.3	7.6	7.5
24	---	---	7.4	7.2	7.2	7.2	7.3	7.2	7.5	7.3	7.6	7.5
25	---	---	7.6	7.2	7.3	7.2	7.3	7.2	7.6	7.3	7.6	7.4
26	---	---	7.7	7.6	7.3	7.2	7.3	7.3	7.5	7.4	7.6	7.4
27	---	---	7.7	7.5	7.3	7.2	7.3	7.3	7.4	7.4	7.6	7.5
28	---	---	7.6	7.4	7.3	7.2	7.3	7.2	7.6	7.4	7.6	7.5
29	---	---	7.6	7.4	7.3	7.3	7.4	7.3	7.5	7.4	7.5	7.4
30	7.7	7.5	7.6	7.4	7.3	7.3	7.4	7.3	7.5	7.3	7.5	7.3
31	---	---	7.5	7.3	---	---	7.3	7.2	7.5	7.4	---	---
MONTH	7.7	7.5	7.8	7.1	7.5	7.0	7.5	7.1	7.6	7.2	7.7	7.3
YEAR	8.2	4.5										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	21.5	18.0	17.0	12.0	11.5	6.0	5.0	7.5	7.0	5.0	4.5
2	21.5	21.0	18.0	17.5	12.5	12.0	5.0	4.5	7.5	6.5	5.0	2.5
3	22.5	21.5	18.5	18.0	12.5	12.0	4.0	2.0	7.5	7.0	6.0	4.0
4	22.5	20.5	19.0	18.0	10.0	9.0	3.0	2.5	7.5	7.0	5.5	4.0
5	20.5	19.5	19.5	19.0	9.5	9.0	3.5	3.5	7.5	7.0	5.5	5.0
6	21.0	20.5	19.0	19.0	10.0	9.0	4.0	3.5	7.0	7.0	5.5	5.0
7	21.0	19.0	19.0	19.0	10.0	9.5	4.5	3.5	7.5	7.0	5.0	4.0
8	18.0	17.5	19.0	19.0	11.5	10.0	4.5	4.0	7.5	7.5	5.5	4.5
9	18.5	15.0	19.0	18.5	9.5	6.5	4.5	4.0	7.5	7.5	6.0	5.0
10	19.5	18.0	18.5	17.5	6.5	5.5	5.0	4.0	7.5	6.5	6.5	6.0
11	20.0	19.0	17.5	17.5	5.5	5.5	6.0	4.5	7.0	6.5	6.5	5.5
12	20.5	19.5	18.0	17.5	7.0	5.5	6.0	6.0	7.0	6.5	5.5	5.0
13	21.0	17.5	18.5	18.0	8.0	7.0	7.5	6.5	7.0	6.5	6.5	5.5
14	17.5	15.0	19.0	18.5	8.0	7.5	7.5	5.0	7.0	6.5	9.0	6.5
15	16.0	15.5	19.0	18.5	8.5	7.5	5.5	5.0	7.0	7.0	---	---
16	16.5	15.0	18.5	17.5	9.0	8.5	5.5	5.0	7.0	5.5	8.0	6.5
17	16.5	15.0	18.0	17.5	9.5	9.0	6.5	5.5	6.0	5.5	9.0	7.0
18	16.5	15.5	17.0	15.0	9.5	9.0	6.5	6.0	5.0	5.0	10.5	8.5
19	17.0	16.5	16.0	15.5	9.0	8.5	6.5	6.0	5.5	5.5	11.5	10.0
20	19.0	17.0	16.5	15.0	10.0	9.0	7.0	6.5	5.5	5.5	12.5	11.5
21	19.5	19.0	16.0	15.0	10.5	10.0	---	---	7.0	6.0	14.0	11.5
22	19.5	19.0	16.0	15.0	10.0	9.0	9.5	7.5	7.0	6.0	15.0	13.0
23	19.5	19.5	16.5	15.5	10.0	9.5	9.5	8.0	5.5	3.5	15.0	14.0
24	19.5	19.0	16.0	15.0	10.0	9.5	9.5	7.5	3.5	3.0	15.5	13.0
25	19.0	18.5	15.0	14.0	10.0	9.0	7.0	5.0	3.5	3.0	12.5	10.5
26	19.0	18.5	14.5	14.0	9.0	8.0	---	---	3.0	2.0	10.0	8.5
27	18.0	17.0	14.0	13.5	8.0	7.5	---	---	4.5	3.0	9.5	8.0
28	17.5	17.0	14.0	10.5	8.0	7.5	---	---	5.0	4.0	9.5	8.5
29	17.5	17.0	11.0	9.5	8.5	8.0	7.5	7.5	---	---	10.0	8.5
30	17.5	16.5	11.0	11.0	9.5	8.5	7.5	7.5	---	---	12.5	10.0
31	17.5	17.0	---	---	9.5	8.0	7.5	7.0	---	---	12.5	11.5
MONTH	24.5	15.5	19.5	9.5	12.5	5.5	9.5	2.0	7.5	2.0	15.5	2.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	16.5	14.5	18.5	17.0	26.0	24.5	30.0	29.0	29.0	27.5
2	---	---	17.5	15.5	20.0	18.5	24.5	22.0	28.5	23.5	29.0	28.0
3	---	---	18.5	17.0	22.0	20.0	22.5	21.5	26.5	25.0	28.5	27.5
4	---	---	18.5	17.5	23.0	21.5	24.5	22.5	28.0	26.5	28.5	27.5
5	---	---	18.0	17.0	23.5	22.5	23.5	22.5	28.5	28.0	28.5	27.5
6	---	---	18.0	15.5	24.0	23.0	24.0	23.0	28.0	27.0	29.0	28.0
7	---	---	20.0	17.5	24.5	23.5	25.0	23.5	29.5	27.0	29.0	28.5
8	---	---	22.5	20.0	26.0	24.5	26.0	24.5	29.0	28.0	28.5	27.0
9	---	---	24.0	22.0	26.5	26.0	25.5	22.0	29.5	28.5	27.0	26.0
10	---	---	25.5	23.5	26.5	26.0	23.0	21.0	29.5	29.5	26.0	25.5
11	---	---	26.0	25.5	26.5	23.0	25.5	23.0	29.5	26.0	26.0	25.5
12	---	---	26.0	24.0	24.5	23.0	26.5	25.5	26.0	25.5	28.5	26.0
13	---	---	24.0	19.5	24.5	23.5	27.0	25.5	26.0	25.0	28.0	27.0
14	---	---	21.0	19.5	25.0	24.0	25.5	24.0	26.5	26.0	28.0	20.0
15	---	---	22.0	20.5	26.0	24.5	27.0	25.0	26.0	25.5	20.0	19.0
16	---	---	22.5	21.5	27.0	25.5	29.5	27.0	26.5	25.5	19.5	18.5
17	---	---	23.0	22.0	28.5	26.5	29.0	28.0	26.0	25.5	20.0	19.0
18	---	---	23.0	22.0	27.5	27.0	29.0	28.5	26.0	24.5	20.5	19.5
19	---	---	23.0	22.0	27.0	26.5	29.5	28.5	24.5	23.5	21.0	20.5
20	---	---	24.0	23.0	27.0	26.0	29.5	28.5	26.5	24.5	20.5	19.5
21	---	---	24.0	23.5	26.0	23.0	29.0	28.5	27.0	26.0	20.5	20.0
22	---	---	23.5	22.5	25.5	23.0	29.5	28.5	27.5	26.5	20.5	20.0
23	---	---	23.5	22.5	25.5	25.0	29.0	27.0	27.0	25.0	21.0	20.5
24	---	---	23.0	17.0	25.5	25.0	28.0	25.5	26.5	24.5	21.5	20.5
25	---	---	16.0	12.0	25.0	24.5	28.5	27.5	24.5	24.0	21.5	20.5
26	---	---	12.0	11.5	25.0	24.5	29.0	28.5	25.5	24.5	22.5	21.5
27	---	---	13.5	12.0	26.5	25.0	29.5	28.5	25.5	25.0	23.5	22.5
28	---	---	14.5	13.5	27.5	26.0	29.5	29.0	25.0	22.0	23.5	21.5
29	---	---	16.0	15.0	27.5	26.5	29.5	29.0	24.0	23.0	22.0	21.0
30	15.5	15.0	17.0	15.0	27.0	26.0	29.5	29.0	25.5	24.0	23.5	22.0
31	---	---	17.5	15.5	---	---	29.0	29.5	28.0	26.0	---	---
MONTH	15.5	15.0	26.0	11.5	28.5	17.0	29.5	21.0	30.0	22.0	29.0	18.5
YEAR	30.0	2.0										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.8	.1	6.0	5.1	---	---	9.5	7.9	10.6	10.3	11.9	11.7
2	1.7	.0	6.2	5.7	---	---	11.2	10.7	10.9	10.2	12.4	11.8
3	1.4	.1	5.8	3.0	8.4	7.1	12.1	11.1	10.4	9.9	12.5	11.9
4	1.2	.2	4.8	3.5	9.7	7.3	12.2	12.0	10.7	9.7	---	---
5	4.2	.6	5.0	4.2	10.3	8.2	12.2	12.1	10.4	9.5	---	---
6	4.3	.8	5.0	3.8	11.1	9.8	12.1	11.7	10.6	9.8	---	---
7	3.9	.5	6.1	4.7	11.1	10.4	11.8	11.4	10.4	9.9	12.4	12.0
8	5.2	1.1	5.8	5.2	10.6	9.6	11.5	11.3	10.0	9.5	12.2	12.1
9	6.0	2.1	5.5	4.9	11.3	10.0	11.5	11.0	10.0	9.4	12.1	12.0
10	6.8	2.7	7.3	5.9	12.1	11.4	11.4	10.9	9.9	9.1	11.7	11.6
11	5.9	3.3	7.2	5.4	12.1	11.9	11.3	10.9	10.3	9.8	11.7	11.5
12	5.2	4.2	6.7	5.7	12.1	11.3	10.9	10.5	10.3	9.6	12.1	11.8
13	4.5	.9	7.0	5.3	11.6	10.9	10.6	9.9	10.2	8.4	12.0	11.4
14	7.6	4.0	6.5	5.0	11.2	10.9	9.9	8.0	10.1	9.8	11.4	10.6
15	7.8	4.7	6.4	4.0	11.2	9.6	10.0	8.7	10.0	9.6	11.2	10.5
16	7.9	2.1	6.0	3.4	10.4	9.4	10.8	9.3	9.6	8.5	11.5	11.1
17	7.5	2.1	6.2	5.4	10.4	9.6	11.1	10.3	9.1	8.7	11.3	10.9
18	7.6	3.3	6.0	2.4	10.1	9.5	10.6	9.4	9.4	8.7	11.0	10.2
19	5.7	3.0	6.4	2.6	9.5	9.0	10.5	9.4	9.1	8.8	10.4	9.4
20	6.7	2.9	7.1	5.3	9.2	8.2	10.2	9.5	9.5	8.9	10.2	8.7
21	6.5	2.4	7.9	5.0	9.1	7.7	---	---	9.1	8.0	9.3	7.7
22	5.8	3.9	7.8	5.0	9.4	7.5	9.2	8.6	8.5	5.8	8.5	7.1
23	4.9	3.5	7.8	5.5	9.2	8.4	9.7	9.1	10.7	7.1	7.9	6.8
24	4.5	2.0	7.5	5.7	9.3	8.2	9.8	8.6	12.1	10.6	7.6	6.5
25	5.2	2.0	7.1	4.9	8.7	8.3	9.8	7.1	12.4	12.1	9.0	7.3
26	5.1	3.8	7.3	5.7	9.0	7.5	---	---	12.5	11.4	9.8	9.4
27	5.0	1.7	7.0	5.6	9.9	9.0	---	---	12.4	12.0	10.3	9.8
28	5.8	4.0	7.5	7.0	9.9	9.3	---	---	12.4	11.9	10.7	9.4
29	5.5	2.4	7.9	7.6	9.7	9.1	10.4	10.2	---	---	10.5	9.8
30	6.2	3.2	---	---	9.5	8.9	10.7	10.3	---	---	10.4	9.8
31	6.1	4.3	---	---	9.3	5.2	10.9	10.4	---	---	9.9	9.0
MONTH	7.9	.0	7.9	2.4	12.1	5.2	12.2	7.1	12.5	5.8	12.5	6.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.1	5.4	7.4	6.2	1.0	.8	.7	.2	---	---
2	---	---	6.4	5.4	6.4	5.2	2.2	.9	2.8	.1	---	---
3	---	---	5.9	4.0	6.2	5.1	4.4	2.5	3.0	1.7	---	---
4	---	---	5.0	2.3	5.6	2.7	3.5	2.2	2.7	1.1	---	---
5	---	---	5.3	4.0	4.8	2.1	3.0	1.9	2.0	.2	---	---
6	---	---	4.7	3.7	4.8	3.3	3.7	2.4	.7	.2	---	---
7	---	---	5.6	3.6	4.2	.1	3.4	2.2	1.5	.3	---	---
8	---	---	5.3	2.8	3.6	2.3	2.4	1.0	.5	.2	---	---
9	---	---	3.2	2.0	3.1	2.2	2.6	.2	.3	.2	---	---
10	---	---	3.3	1.8	2.7	.3	2.1	.2	.3	.2	---	---
11	---	---	2.2	1.2	3.2	1.0	1.8	1.1	.2	.1	---	---
12	---	---	1.1	.2	3.8	.3	1.9	3.0	.6	.1	---	---
13	---	---	1.1	.0	4.1	3.4	2.2	1.0	.9	.2	---	---
14	---	---	3.7	.6	4.1	3.1	2.7	.5	.6	.2	---	---
15	---	---	3.5	1.7	3.4	2.5	2.6	1.5	.5	.2	---	---
16	---	---	2.3	1.7	2.2	.8	2.1	.7	.6	.2	---	---
17	---	---	3.3	2.0	1.2	.5	1.8	.2	.4	.2	6.8	6.4
18	---	---	2.9	1.9	.7	.4	2.1	.5	.8	.2	6.8	5.5
19	---	---	2.5	1.1	1.0	.6	2.9	.4	.8	.3	6.4	5.7
20	---	---	2.9	2.0	2.5	.7	3.7	.2	1.0	.4	6.2	5.7
21	---	---	2.6	1.3	1.6	.6	2.9	.4	.4	.2	6.1	5.4
22	---	---	2.3	.9	1.9	1.0	1.1	.1	.9	.2	5.5	4.9
23	---	---	2.4	1.4	2.9	1.1	.3	.1	1.3	.3	4.8	3.7
24	---	---	4.0	2.1	2.2	.8	1.4	.2	2.3	1.4	5.5	3.9
25	---	---	8.8	1.8	1.7	.8	.8	.2	---	---	5.0	4.4
26	---	---	9.3	8.8	1.7	.8	.3	.2	---	---	4.6	3.9
27	---	---	8.9	8.3	2.2	.9	.6	.2	---	---	4.3	3.5
28	---	---	8.3	8.1	2.0	.8	.2	.0	---	---	4.0	1.0
29	---	---	8.3	8.0	1.1	.8	.7	.1	---	---	3.7	.9
30	6.8	4.5	8.1	7.7	1.0	.8	1.5	.2	---	---	3.7	2.3
31	---	---	7.8	7.3	---	---	.6	.3	---	---	---	---
MONTH	6.8	4.5	9.3	.0	7.4	.1	4.4	.0	3.0	.1	6.8	.9
YEAR	12.5	.0										

04208690 EUCLID CREEK NEAR EUCLID, OH

LOCATION.--Lat 41°34'28", long 81°32'51", Cuyahoga County, Hydrologic Unit 04110003, on right bank 150 ft (46 m) upstream from St. Clair Avenue bridge, 0.3 mi (0.5 km) downstream from city of Cleveland waterworks, 1.6 mi (2.6 km) upstream from mouth.

DRAINAGE AREA.--22.6 mi² (58.5 km²).

PERIOD OF RECORD.--May 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is 600.26 ft (182.959 m) National Geodetic Vertical Datum of 1929, city of Cleveland bench mark.

REMARKS.--Records poor. Diurnal fluctuations caused by waterplant upstream from gage. Sediment data collected July 1977 to September 1978.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,910 ft³/s (82.4 m³/s) Dec. 14, 1977, gage height, 8.03 ft (2.443 m) from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of contracted-opening measurement of peak flow and a slope area measurement at a lower stage; minimum daily discharge 3.1 ft³/s (0.088 m³/s) July 10, 11, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 31, 1975 reached a stage of 15.06 ft (4.590 m), from floodmarks, discharge, 7.440 ft³/s (211 m³/s) on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 25	0100	1780	50.4	5.91	1.801	Sept. 14	0830	*1820	51.5	*5.99	1.826

Minimum daily discharge, 3.2 ft³/s (0.091 m³/s) July 17, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	10	13	290	11	169	71	42	21	28	48	8.7
2	12	8.3	17	70	10	213	173	37	14	67	40	27
3	20	8.7	121	20	9.5	369	99	56	13	8.3	8.7	13
4	52	8.3	77	15	9.0	576	144	45	11	18	8.7	11
5	19	7.0	34	12	9.0	243	102	41	9.6	7.0	11	10
6	43	8.7	22	11	8.5	100	122	41	17	5.0	8.3	11
7	23	7.9	26	10	8.5	59	57	44	14	5.0	11	9.5
8	14	7.9	146	9.5	8.5	56	76	40	7.9	4.5	10	6.3
9	17	10	77	9.0	8.5	49	279	48	10	59	11	6.0
10	12	7.4	25	8.5	8.5	71	96	39	26	10	22	7.9
11	17	8.7	18	8.5	8.5	46	72	46	21	8.3	37	6.7
12	9.1	7.4	17	12	8.0	42	90	118	10	5.6	9.6	7.4
13	49	7.0	15	25	8.0	46	70	69	7.4	4.2	8.3	7.0
14	81	30	14	70	8.0	52	137	45	6.3	4.0	20	463
15	20	12	19	18	8.0	38	71	38	7.4	3.4	9.1	36
16	33	7.4	14	12	8.0	36	56	36	6.7	4.0	6.7	13
17	17	25	17	10	8.0	37	50	37	6.7	3.2	8.7	11
18	13	19	12	9.0	8.0	38	52	34	6.0	3.6	34	8.7
19	10	10	8.7	8.5	8.0	38	48	35	6.0	3.2	11	8.7
20	9.1	9.6	11	8.5	8.0	36	47	81	50	4.0	11	7.9
21	9.6	8.3	18	9.0	8.0	36	47	70	93	4.7	8.3	7.4
22	8.3	8.3	9.6	11	50	35	48	40	8.7	10	12	7.0
23	15	24	9.1	20	450	40	44	33	5.0	7.9	28	5.3
24	12	17	9.1	90	200	211	42	194	4.5	6.0	95	7.4
25	8.7	11	18	30	100	99	42	1250	4.2	7.0	50	7.4
26	72	9.6	9.1	20	69	67	52	535	5.0	9.6	12	6.5
27	51	45	8.3	17	74	72	57	93	4.2	5.0	15	6.0
28	19	39	8.0	15	93	217	51	52	4.5	8.7	62	56
29	13	18	7.5	13	---	274	46	36	8.7	8.7	28	14
30	11	14	38	12	---	182	48	23	7.4	6.3	11	12
31	7.9	---	211	12	---	94	---	21	---	6.0	7.9	---
TOTAL	716.7	415.5	1049.4	885.5	1215.5	3641	2429	3320	416.2	335.2	563.3	809.0
MEAN	23.1	13.9	33.9	28.6	43.4	117	81.0	107	13.9	10.8	21.4	27.0
MAX	81	46	211	290	450	576	279	1250	93	67	95	463
MIN	7.9	7.0	7.5	8.5	8.0	35	42	21	4.2	3.2	6.7	5.3
CFSM	1.02	.62	1.50	1.27	1.92	5.18	3.58	4.74	.62	.48	.95	1.20
IN.	1.18	.68	1.73	1.46	2.00	5.99	4.00	5.46	.69	.55	1.09	1.33

CAL YR 1978 TOTAL 13562.0 MEAN 37.2 MAX 1400 MIN 6.9 CFSM 1.65 IN 22.32
WTR YR 1979 TOTAL 15896.3 MEAN 43.6 MAX 1250 MIN 3.2 CFSM 1.93 IN 26.15

04208690 EUCLID CREEK NEAR EUCLID, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
AUG												
01...	2030	130	473	7.4	--	--	110	46	58	9.2	289	.39
01...	2045	116	438	7.5	--	--	119	36	51	7.1	267	.36
01...	2100	100	413	7.7	--	--	111	37	47	7.4	255	.35
01...	2115	110	399	7.6	--	--	111	38	46	5.6	251	.34
01...	2130	115	368	7.7	--	--	97	37	42	5.7	229	.31
01...	2145	113	362	7.7	--	--	102	36	41	7.1	234	.32
01...	2200	230	375	7.7	--	--	101	38	42	5.5	239	.32
01...	2215	369	419	7.4	--	--	164	44	46	7.0	270	.37
01...	2230	284	334	7.4	--	--	188	35	30	6.9	210	.29
01...	2245	284	293	7.3	--	--	170	31	27	6.0	190	.26
01...	2300	257	310	7.5	--	--	145	36	29	6.1	202	.27
01...	2330	192	329	7.4	--	--	99	37	33	6.0	217	.29
02...	1100	26	479	7.8	22.0	7.8	--	47	52	7.2	302	.41

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG												
01...	101	957	.85	.02	3.9	3.9	4.7	21	.96	.04	.12	10
01...	83.6	877	1.3	.05	3.7	3.7	5.0	22	.83	.07	.21	10
01...	69.0	674	1.5	.03	3.6	3.6	5.2	23	.80	.09	.28	10
01...	74.5	544	1.3	.04	3.5	3.5	4.9	22	.76	.06	.18	11
01...	71.4	554	1.5	.09	3.0	3.1	4.7	21	.71	.10	.31	11
01...	71.4	650	1.5	.13	3.3	3.3	5.0	22	.74	.12	.37	11
01...	148	640	1.7	.06	3.0	3.0	4.8	21	.77	.09	.28	10
01...	269	1140	.72	.02	8.0	8.0	8.7	39	1.5	.02	.05	14
01...	161	1830	.43	.09	5.7	5.8	6.2	28	1.5	.02	.05	14
01...	145	1700	1.0	.04	4.9	4.9	6.0	27	1.3	.05	.15	12
01...	140	1490	1.3	.07	3.8	3.8	5.2	23	1.1	.07	.21	11
01...	112	901	1.4	.20	3.3	3.5	5.0	22	.82	.13	.40	9.9
02...	21.2	22	1.2	.01	1.2	1.2	2.4	11	.34	.03	.04	7.8

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH

LOCATION.--Lat 41°37'51", long 81°24'13", in T.9 N., R.10 W., Lake County, Hydrologic Unit 04110003, on left bank, 150 ft (46 m) downstream from city waterworks dam, 800 ft (244 m) downstream from East Branch, 1.0 mi (1.6 km) southeast of Willoughby, and 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--246 mi² (637 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1925 to November 1935, October 1939 to current year (July 1925 to September 1932 monthly run-off in inches, adjusted for diversion, published in WSP 1307; previously published run-off was unadjusted and should not be used).

REVISED RECORDS.--WSP 1084: 1929(M), 1931(M). WSP 1307: 1926-28(M), 1930(M), 1932-35(M), 1942(M). WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 594.57 ft (181.225 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at site 150 ft (46 m) upstream at datum 7 ft (2 m) higher.

REMARKS.--Records good except those for winter periods, which are poor. Water diverted 200 ft (61 m) upstream from station for municipal supply of city of Willoughby. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--50 years, 328 ft³/s (9.289 m³/s), 18.11 in/yr (460 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Mar. 22, 1948, gage height, 17.95 ft (5.471 m) (from high-water mark in well), from rating curve extended above 14,000 ft³/s (393 m³/s) on basis of contracted-opening measurements of peak flow; minimum daily, 3.0 ft³/s (0.085 m³/s) July 25, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 10.3 ft (3.14 m), from floodmark, former site and datum, discharge, 24,500 ft³/s (694 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 1	0030	4460	126	7.50	2.286	Mar. 29	0200	4420	125	7.24	2.207
Feb. 23	2200	4660	132	ice jam		May 25	1600	7410	210	9.70	2.957
Mar. 5	0030	6910	196	9.31	2.838	Sept. 14	1330	*8130	230	*10.20	3.109

Minimum daily discharge, 54 ft³/s (1.53 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	91	137	3530	200	840	729	210	189	107	100	107
2	118	88	130	2160	190	1470	1090	184	156	349	756	100
3	81	88	429	595	170	2360	1400	186	124	201	219	124
4	168	86	826	500	160	5390	864	219	114	147	103	124
5	122	86	516	400	150	4460	1100	197	107	127	97	97
6	113	86	280	300	140	1740	610	180	107	87	110	81
7	210	110	211	250	140	937	475	170	103	75	94	72
8	141	104	695	220	130	783	376	170	87	72	69	66
9	97	94	1380	200	130	612	2090	152	100	131	56	56
10	80	100	602	180	120	797	1210	143	114	170	66	61
11	69	91	330	170	120	600	644	143	251	138	210	59
12	69	91	315	160	120	416	552	193	143	951	147	56
13	168	91	280	150	120	393	512	657	90	193	90	54
14	429	107	252	280	120	506	810	246	75	180	90	5410
15	275	113	240	240	120	389	670	193	75	127	72	2660
16	160	104	224	210	120	309	593	161	78	94	61	631
17	184	107	210	190	120	299	525	143	81	78	56	314
18	156	141	200	180	120	275	370	136	75	69	97	233
19	141	123	190	170	120	265	294	131	75	66	117	170
20	134	110	202	160	120	237	250	127	69	64	75	144
21	117	107	290	160	140	228	233	166	324	64	64	100
22	100	104	257	150	300	219	224	131	138	61	61	94
23	100	107	215	160	2960	219	210	120	90	75	131	100
24	100	130	202	250	3090	934	197	152	78	78	314	147
25	94	120	190	650	1720	1390	190	5570	72	66	416	131
26	210	110	176	350	1000	606	190	4090	69	72	175	134
27	285	145	160	270	874	463	444	1600	64	78	124	120
28	176	310	160	250	715	735	427	803	64	120	625	193
29	134	198	150	240	---	3460	289	410	75	100	525	206
30	107	164	224	240	---	2220	246	275	90	69	261	155
31	97	---	1190	220	---	1250	---	219	---	64	138	---
TOTAL	4610	3506	10863	13185	13529	34802	18146	17477	3277	4273	5519	11999
MEAN	149	117	350	425	483	1123	605	564	109	138	178	400
MAX	429	310	1380	3630	3090	5390	2090	5570	324	951	756	5410
MIN	69	86	130	150	120	219	190	120	64	61	56	54

CAL YR 1978 TOTAL 116819 MEAN 320 MAX 4700 MIN 39
WTR YR 1979 TOTAL 141175 MEAN 387 MAX 5570 MIN 54

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH

WATER-QUALITY RECORDS

SEDIMENT ANALYSES

PERIOD OF RECORD.--July 1969 to current year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC							
31...	2130	3400	2290	21000	22	31	44
FEB							
23...	2300	5390	1690	24600	24	34	48
MAR							
04...	2330	6560	1920	34000	21	30	44
SEP							
14...	1230	8090	2150	47000	24	36	49

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
DEC							
31...	60	77	89	95	98	100	--
FEB							
23...	65	76	86	89	96	100	--
MAR							
04...	61	74	91	96	99	100	--
SEP							
14...	65	80	84	89	95	99	100

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20	9.5	4	.98	2	.74	1140	10500	7	3.8	70	159
2	20	6.4	4	.95	2	.70	450	2620	4	2.1	250	992
3	20	4.4	5	1.2	171	338	55	103	6	2.8	1220	9300
4	60	27	4	.93	225	132	28	38	6	2.6	1730	25500
5	40	13	5	1.2	68	95	28	30	5	2.0	1550	21100
6	21	6.4	7	1.6	12	9.1	8	5.5	4	1.5	650	3050
7	75	43	6	1.8	12	6.8	8	5.4	4	1.5	142	359
8	28	11	5	1.4	168	548	5	3.0	11	3.9	82	173
9	17	4.5	4	1.0	513	2120	8	4.3	8	2.8	72	119
10	20	4.3	3	.81	78	127	6	2.9	7	2.3	108	232
11	17	3.2	3	.74	25	22	13	5.0	6	1.9	45	73
12	13	2.4	3	.74	17	14	5	2.2	4	1.3	23	26
13	52	26	3	.74	5	3.8	10	4.1	4	1.3	32	34
14	147	175	3	.87	9	6.1	81	641	5	1.6	62	85
15	50	37	4	1.2	9	5.8	17	11	7	2.3	33	35
16	31	13	3	.84	11	6.7	11	5.2	5	1.6	35	29
17	16	7.9	6	1.7	14	7.9	8	4.1	7	2.3	20	16
18	11	4.6	7	2.7	10	5.4	4	1.9	8	2.6	18	13
19	16	6.1	7	2.3	8	4.1	6	2.8	7	2.3	24	17
20	10	3.6	3	.99	23	13	6	2.6	9	2.9	10	6.4
21	7	2.2	3	.87	22	17	6	2.5	8	3.0	21	13
22	4	1.1	5	1.4	10	6.9	3	1.2	17	14	42	25
23	12	3.2	1	.29	8	4.6	3	1.3	382	4240	35	21
24	6	1.6	3	1.1	4	2.2	10	5.8	548	4750	319	1700
25	3	.76	1	.32	7	3.6	10	12	140	650	530	1990
26	72	53	3	.89	7	3.3	11	10	52	140	110	180
27	66	51	11	5.7	7	3.0	7	5.1	28	66	44	55
28	52	25	58	51	7	3.0	5	3.4	32	62	347	1340
29	30	11	11	5.9	6	2.4	4	2.5	---	---	1020	9340
30	4	1.2	5	2.2	5	3.0	4	2.5	---	---	280	1580
31	7	1.8	---	---	501	4540	8	4.8	---	---	160	540
TOTAL	---	558.16	---	94.26	---	8055.14	---	14047.4	---	9970.4	---	78202.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	83	163	4	2.3	19	9.7	11	3.2	52	14	33	9.5
2	144	565	4	2.0	14	5.9	137	122	494	1120	27	7.3
3	240	959	3	1.5	15	5.0	58	31	94	56	41	14
4	138	325	5	3.0	14	4.3	26	10	62	17	35	12
5	134	410	4	2.1	12	3.5	38	13	29	6.8	29	7.5
6	114	249	4	1.9	13	3.8	17	4.0	28	8.3	25	5.5
7	45	53	4	1.8	20	5.6	14	2.9	28	7.1	22	4.3
8	15	15	4	1.8	8	1.9	18	3.5	26	4.8	24	4.3
9	548	3520	7	2.9	18	4.9	33	12	28	5.0	25	4.3
10	165	539	6	2.3	26	8.0	35	15	28	5.0	25	4.1
11	35	61	4	1.5	45	30	44	40	107	58	25	4.0
12	123	184	15	7.8	43	17	1250	4020	53	21	26	3.9
13	27	37	50	53	18	4.4	98	45	35	8.5	30	4.4
14	138	312	15	10	14	2.8	37	18	29	7.0	1390	26300
15	48	87	12	5.3	14	2.8	38	13	31	6.0	212	1590
16	37	59	12	5.2	11	2.3	38	9.6	26	4.3	76	129
17	28	40	12	4.6	10	2.2	55	12	37	5.6	42	36
18	28	28	10	3.6	12	2.4	47	8.8	65	17	28	18
19	25	20	15	5.3	17	3.4	43	7.7	45	14	18	8.3
20	13	9.0	17	5.8	28	5.2	35	6.0	65	13	17	5.2
21	10	5.3	25	11	164	109	26	4.5	35	6.0	22	5.9
22	7	4.2	15	5.3	33	12	27	4.4	41	6.8	17	4.3
23	8	4.5	17	5.5	16	3.9	44	8.9	33	12	17	4.5
24	10	5.3	191	241	15	3.2	42	8.8	121	155	22	8.7
25	7	3.6	1450	23700	25	4.9	33	5.9	123	148	31	11
26	7	3.6	520	5740	15	2.8	31	6.0	53	25	24	8.7
27	42	55	108	525	28	4.8	30	6.3	40	13	24	7.9
28	17	20	45	98	27	4.7	107	43	735	1570	27	14
29	7	5.5	36	40	19	3.8	154	43	208	304	13	7.2
30	4	2.7	25	19	17	4.1	44	8.2	78	55	10	4.5
31	---	---	17	10	---	---	40	6.9	53	20	---	---
TOTAL	---	7751.7	---	30529.5	---	278.3	---	4544.5	---	3713.2	---	28248.4

TOTAL LOAD FOR YEAR: 185993.36 TONS.

04212100 GRAND RIVER NEAR PAINESVILLE, OH

LOCATION.--Lat 41°43'08", long 81°13'41", Lake County, Hydrologic Unit 04110004, on downstream left abutment of bridge on State Highway 84 (Walnut Avenue), 0.9 mi (1.4 km) downstream from Big Creek in Painesville.

DRAINAGE AREA.--685 mi² (1,774 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.37 ft (189.089 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are poor.

AVERAGE DISCHARGE.--5 years, 1037 ft³/s (29.37 m³/s), 20.55 in/yr (522 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft³/s (445 m³/s) Feb. 17, 1976, gage height, 12.55 ft (3.825 m); minimum, 11 ft³/s (0.31 m³/s) Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 6,500 ft³/s (184 m³/s) and maximums (*):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft³/s)	(m³/s)	(ft)	(m)	Date	Time	(ft³/s)	(m³/s)	(ft)	(m)
Jan. 1	2300	11400	323	10.38	3.164	May 26	0430	9090	257	9.16	2.792
Feb. 25	0630	11400	323	10.41	3.173	Sept. 15	1700	11600	329	10.50	3.200
Mar. 4	1900	*14200	402	*11.81	3.600						

Minimum discharge, 22 ft³/s (0.62 m³/s) Oct. 3.

DISCHARGE, STREAM (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	87	196	8320	440	2570	3130	774	693	68	114	135
2	30	73	191	9710	400	3060	3010	554	450	112	371	102
3	24	64	267	5580	370	4520	5200	424	332	91	336	91
4	43	59	539	2910	350	11100	4580	367	253	100	267	68
5	37	53	545	2270	340	13200	4040	326	196	100	214	57
6	45	49	646	1800	330	10700	3780	312	160	89	139	49
7	140	48	611	1060	320	7630	2910	281	137	72	93	41
8	89	44	710	950	310	5910	2030	246	124	60	68	37
9	82	45	1450	700	310	4000	4310	219	148	52	52	35
10	78	45	1590	550	310	3090	5410	195	187	56	43	31
11	63	42	1330	470	310	2310	3150	181	220	50	39	27
12	48	40	1080	430	300	1600	2370	715	375	55	39	25
13	67	39	893	400	300	1240	2140	2010	531	42	37	25
14	152	39	662	900	300	1380	1980	1790	728	41	36	4330
15	162	42	532	950	300	1290	1750	1310	756	41	35	10400
16	233	41	466	700	300	1060	1790	1030	509	41	29	6830
17	227	42	519	600	300	910	1870	745	281	41	28	3310
18	177	49	614	500	300	809	1520	452	173	58	28	2870
19	152	53	575	450	300	739	1130	297	118	51	50	2350
20	152	56	497	430	310	620	838	228	86	41	56	1390
21	130	58	1210	420	386	530	627	235	106	35	50	667
22	104	72	1350	410	602	450	490	207	84	31	39	308
23	85	75	1050	400	1990	391	405	173	72	27	39	192
24	72	78	738	500	8750	627	347	160	64	31	70	139
25	60	77	588	1100	6970	1210	308	4370	57	27	224	116
26	87	75	465	1200	4290	1330	293	8000	52	25	328	95
27	133	80	382	900	3000	1310	485	5100	48	26	173	87
28	98	162	353	700	2540	1260	809	3130	53	137	130	104
29	78	160	350	600	---	3450	1030	2460	49	190	187	130
30	78	167	391	540	---	4870	950	1880	50	126	208	144
31	98	---	1260	480	---	4140	---	1200	---	84	150	---
TOTAL	3060	2014	22050	46830	35028	97306	62672	39371	7092	2000	3682	34177
MEAN	98.7	67.1	711	1511	1251	3139	2089	1270	236	64.5	119	1139
MAX	233	167	1590	9710	8750	13200	5410	8000	756	190	371	10400
MIN	24	39	191	400	300	391	293	160	48	25	28	25
CFSM	.14	.10	1.04	2.21	1.83	4.58	3.05	1.85	.35	.09	.17	1.65
IN.	.17	.11	1.20	2.54	1.90	5.28	3.40	2.14	.39	.11	.20	1.85

CAL YR 1978 TOTAL 253496 MEAN 695 MAX 9670 MIN 12 CFSM 1.02 IN 13.77
WTR YR 1979 TOTAL 355282 MEAN 973 MAX 13200 MIN 24 CFSM 1.42 IN 19.29

04212100 GRAND RIVER NR PAINESVILLE, OHIO--Continued

SEDIMENT ANALYSIS

PERIOD OF RECORD.--November 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/L Jan. 1, 1979; minimum daily mean, 4 mg/L Nov. 9, 17, 20-22, 1978, April 25, May 5, 1979.
SEDIMENT LOADS: Maximum daily, 28,000 tons (25,400 tonnes) Jan. 1, 1979; minimum daily, 0.45 ton (0.41 tonne) Nov. 17, 1978.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/L Jan. 1; minimum daily mean, 4 mg/L Nov. 9, 17, 20-22, April 25, May 5.
SEDIMENT LOADS: Maximum daily, 28,000 tons (25,400 tonnes) Jan. 1; minimum daily 0.45 ton (0.41 tonne) Nov. 17.

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			14	3.3	10	5.3	1350	.0	7	8.3	53	368
2			12	2.4	11	5.7	575	.0	7	7.6	79	659
3			10	1.7	40	40	173	2760	7	7.0	229	3200
4			8	1.3	72	105	77	605	7	6.6	599	0
5			7	1.0	48	71	67	411	7	6.4	315	0
6			7	.93	55	96	63	306	7	6.2	216	6240
7			6	.78	35	58	80	229	7	6.0	145	2990
8			6	.71	55	133	200	459	7	5.9	100	1600
9			4	.49	156	609	90	151	7	5.9	74	799
10			5	.61	58	249	8	12	7	5.9	60	501
11			6	.68	35	126	10	13	7	5.9	23	143
12			7	.76	30	87	22	26	7	5.7	27	117
13			7	.74	20	48	31	33	7	5.7	31	104
14			7	.74	16	29	35	85	7	5.7	35	130
15			10	1.1	14	20	30	77	7	5.7	28	95
16			6	.66	16	20	25	47	7	5.7	24	59
17			4	.45	10	14	20	32	7	5.7	17	42
18			7	.93	6	9.9	15	20	7	5.7	17	37
19			5	.72	5	7.8	14	17	7	5.7	13	25
20			4	.60	14	19	13	15	7	5.9	12	20
21			4	.63	266	913	12	14	7	7.3	13	19
22			4	.78	110	401	11	12	10	16	11	13
23			5	1.0	57	162	10	11	30	161	11	12
24			11	2.3	33	66	9	12	145	3450	113	348
25			7	1.5	33	52	9	27	192	4300	109	390
26			9	1.8	20	25	8	26	37	429	32	115
27			11	2.4	60	62	8	19	47	381	32	113
28			17	7.4	23	22	8	15	53	363	37	141
29			8	3.5	8	7.6	8	13	---	---	323	2890
30			7	3.2	12	13	7	10	---	---	178	2330
31			---	---	348	2610	7	9.1	---	---	60	671
TOTAL			---	45.11	---	6086.3	---	5466.1	---	9230.5	---	24185

04212100 GRAND RIVER NR PAINESVILLE, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN-TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	66	558	10	21	17	32	13	2.4	43	14	24	8.7
2	65	528	7	10	12	15	42	13	168	171	24	6.6
3	137	1920	8	9.2	8	7.2	23	5.7	64	58	29	7.1
4	83	1030	5	5.0	9	6.1	19	5.1	34	25	22	4.0
5	52	567	4	3.5	10	5.3	13	3.5	31	18	21	3.2
6	55	561	5	4.2	13	5.6	11	2.6	27	10	18	2.4
7	40	314	5	3.8	9	3.3	10	1.9	24	6.0	18	2.0
8	37	203	8	5.3	12	4.0	10	1.6	17	3.1	17	1.7
9	290	3850	7	4.1	65	29	12	1.7	15	2.1	14	1.4
10	164	2400	6	3.2	19	9.6	11	1.7	17	2.0	12	1.0
11	65	553	5	2.4	17	10	10	1.4	16	1.7	16	1.2
12	75	480	49	191	20	20	8	1.2	17	1.8	13	.88
13	48	277	155	835	23	33	9	1.0	14	1.4	17	1.1
14	37	198	52	251	32	63	10	1.1	16	1.6	1310	.00
15	35	165	32	113	35	71	15	1.7	13	1.2	370	.00
16	32	155	32	89	27	37	15	1.7	14	1.1	120	2210
17	34	172	21	42	18	14	15	1.7	14	1.1	87	778
18	27	111	12	15	24	11	13	2.0	19	1.4	69	535
19	22	67	7	5.6	15	4.8	12	1.7	23	3.1	53	336
20	17	38	5	3.1	16	3.7	13	1.4	23	3.5	40	150
21	16	27	8	5.1	27	7.7	8	.76	22	3.0	28	50
22	13	17	8	4.5	13	2.9	9	.75	20	2.1	17	14
23	5	5.5	7	3.3	12	2.3	8	.58	22	2.3	9	4.4
24	5	4.7	5	2.2	9	1.6	12	1.0	45	8.5	11	4.1
25	4	3.3	693	9370	10	1.5	12	.87	154	134	18	5.6
26	5	3.8	220	4750	11	1.5	12	.81	67	65	17	4.4
27	16	21	80	1100	15	1.9	11	.77	39	18	11	2.6
28	18	39	57	482	12	1.7	157	97	68	25	12	3.4
29	24	67	45	299	11	1.5	89	48	105	53	8	2.8
30	18	46	42	213	8	1.1	41	14	37	21	7	2.7
31	---	---	26	84	---	---	31	7.0	28	12	---	---
TOTAL	---	14381.3	---	17929.5	---	408.3	---	225.64	---	671.0	---	4144.29

TOTAL LOAD FOR YEAR: 82773.03 TONS.

04212200 GRAND RIVER AT PAINESVILLE, OH
(National stream-quality accounting network station)

LOCATION.--Lat 41°44'09", long 81°15'59", in T.11 N., R.8 W., Lake County, Hydrologic Unit 04110004, at bridge on State Highway 535 in Painesville, 2.2 mi (3.5 km) upstream from mouth, and 8.0 mi (12.9 km) downstream from Kellogg Creek.

DRAINAGE AREA.--701 mi² (1,816 km²).

PERIOD OF RECORD.--March 1950 to February 1952, October 1962 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: December 1966 to current year.
pH: December 1966 to current year.
WATER TEMPERATURES: March 1950 to February 1952, October 1962 to current year.
DISSOLVED OXYGEN: December 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of daily discharge for station near Painesville (station 04212100).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 30,300 micromhos July 14, 1964; minimum, 210 micromhos Jan. 10, 1978, Mar. 5, 1979.
pH: Maximum, 12.0 units Nov. 9, 1971, Jan. 18, 1975; minimum, 4.5 units Sept. 28, 1972.
WATER TEMPERATURES: Maximum, 33.5°C June 28, 1971; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L Dec. 2, 3, 23, 1971, Mar. 11, 1972; minimum, 0.0 mg/L on several days in 1968, 1977, and July 2, Aug. 30, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 7,680 micromhos Oct. 2; minimum, 210 micromhos Mar. 5.
pH: Maximum, 8.9 units May 6; minimum, 6.5 units Jan. 30, Mar. 4.
WATER TEMPERATURES: Maximum, 30.0°C July 16, 17; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 14.0 mg/L Mar. 16; minimum, 4.8 mg/L July 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
04...	0945	43	5000	7.8	18.0	15	7.4	78	94	2900	940
NOV											
01...	0930	89	3880	8.1	10.0	10	10.9	95	56	220	68
DEC											
06...	1600	662	1240	7.6	2.5	3.0	12.4	90	23	620	540
JAN											
10...	1000	550	1640	7.2	.5	4.0	13.3	92	7	370	580
FEB											
06...	1200	330	1450	7.2	.5	2.0	12.3	85	91	630	240
MAR											
06...	1700	9860	215	7.3	1.5	75	13.2	94	20	400	3500
APR											
10...	0945	5770	260	7.2	6.0	60	12.2	98	35	950	13600
MAY											
09...	0830	220	1480	8.2	21.5	6.0	9.0	100	41	100	45
JUN											
12...	1330	371	1120	7.8	21.5	3.0	7.5	84	27	530	280
JUL											
18...	1530	61	5100	8.1	28.5	3.0	8.6	110	50	380	100
AUG											
01...	1530	108	2830	8.0	26.5	10	7.6	93	65	310	93
SEP											
12...	0900	25	2840	8.2	21.5	3.0	7.2	81	44	1500	K16

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 04...	1200	1100	470	13	440	6.0	93	--	78	1400	.2
NOV 01...	1100	1000	420	14	330	6.4	95	--	83	1100	.2
DEC 06...	280	210	92	13	80	4.1	70	--	78	220	.1
JAN 10...	450	400	160	11	140	4.7	43	--	63	420	.1
FEB 06...	360	320	130	9.5	120	3.6	47	5.2	62	360	.1
MAR 06...	58	40	17	3.8	13	1.9	18	--	27	29	.1
APR 10...	74	53	22	4.7	18	2.2	21	--	36	38	.1
MAY 09...	410	350	150	8.9	140	3.6	63	--	57	450	.2
JUN 12...	310	240	110	9.2	81	3.1	75	--	50	280	.1
JUL 18...	1200	1200	460	12	470	5.1	83	--	71	1400	.2
AUG 01...	770	680	290	10	250	5.0	83	1.6	66	920	.2
SEP 12...	1100	980	410	10	240	4.9	82	1.0	38	788	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 04...	2.0	2860	2470	.82	1.8	2.9	13	.14	--	--	3.40
NOV 01...	.9	2430	2010	.41	.86	1.4	6.3	.05	9.0	1300	--
DEC 06...	5.0	610	534	.54	.66	1.3	5.9	.08	5.6	--	23.3
JAN 10...	7.4	946	832	.69	.99	2.1	9.3	.06	--	--	--
FEB 06...	7.0	864	720	.37	.68	1.4	6.1	.04	5.3	--	--
MAR 06...	4.5	124	107	1.0	1.1	1.7	7.6	.14	5.0	2600	--
APR 10...	4.8	172	139	.91	.97	1.4	6.2	.12	--	--	--
MAY 09...	1.2	1200	849	.70	1.2	1.3	5.8	.04	--	1300	--
JUN 12...	2.0	874	581	.65	.81	1.1	4.8	.06	7.0	3200	2.36
JUL 18...	2.8	3060	2490	1.5	1.6	2.4	11	.11	--	32000	3.54
AUG 01...	3.2	2000	1590	.85	1.3	2.2	9.7	.07	7.3	2600	--
SEP 12...	1.5	1730	1460	1.0	1.4	1.9	8.5	.04	8.2	--	--

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

ANALYSES OF MINOR ELEMENTS

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
OCT 04...	0945	3	2	0	0	7	1	40	27
JAN 10...	1000	1	1	100	100	0	0	70	68
APR 10...	0945	1	1	0	0	1	0	10	<10
JUL 18...	1530	3	2	100	100	3	1	50	40

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 04...	2	1	8	4	1300	10	75	3	170
JAN 10...	1	0	3	2	670	120	0	0	120
APR 10...	3	2	6	3	5100	170	14	4	100
JUL 18...	2	0	10	7	550	100	43	5	140

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 04...	140	<.5	<.5	0	0	0	0	40	20
JAN 10...	80	<.5	<.5	0	0	0	0	40	20
APR 10...	30	<.5	<.5	0	0	0	0	40	10
JUL 18...	140	<.5	<.5	1	0	0	0	40	20

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
SEP 14...	1230	5380	2150	31200	22	32	44

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
SEP 14...	63	86	91	96	99	100

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 04...	0945	43	18.0	35
NOV 01...	0930	89	10.0	14
DEC 06...	1600	662	2.5	44
JAN 10...	1000	550	.5	9.0
FEB 06...	1200	330	.5	7.0
MAR 06...	1700	9860	1.5	220
APR 10...	0945	5770	6.0	158
MAY 09...	0830	220	21.5	14
JUN 12...	1330	371	21.5	30
JUL 18...	1530	61	28.5	15
AUG 01...	1530	108	26.5	17
SEP 12...	0900	25	21.5	7.0

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5270	3570	4170	3360	2520	2280	---	---	1080	1020	570	510
2	7680	4020	3840	3300	2280	2040	---	---	1170	1050	570	540
3	5600	3000	4410	3540	2490	2070	---	---	---	---	570	510
4	6780	4110	4050	2510	2070	1230	---	---	---	---	480	300
5	7560	5250	4650	3780	1290	1230	---	---	---	---	390	210
6	6480	5050	4950	3180	1290	1200	790	720	1500	1440	390	240
7	6810	4440	5670	4530	1230	1200	990	780	1560	1470	420	350
8	4290	3270	5460	3780	1260	1140	1250	1020	1590	1500	420	350
9	3240	2050	4830	3600	1090	930	1740	1260	1710	1560	490	420
10	3840	3150	5010	4020	900	840	1770	1500	1770	1650	510	490
11	3870	2910	4830	3000	---	---	1800	1500	1890	1650	570	420
12	4170	3360	5610	3390	---	---	2040	1680	2040	1740	650	570
13	5640	4290	6480	5510	---	---	1990	1740	2040	1890	720	650
14	5670	3240	6810	4530	---	---	1890	1410	2100	1950	690	630
15	3180	2490	7020	4410	---	---	1390	1080	2220	2040	690	650
16	2610	1980	5660	3000	---	---	1200	1050	2340	2070	750	690
17	2130	1920	5430	4080	---	---	1170	1020	2370	2160	3870	720
18	2220	1950	7230	5040	---	---	1140	900	2550	2340	1440	930
19	2520	2220	7320	5130	---	---	1230	930	2550	2430	2070	860
20	2880	2310	5370	4410	---	---	1290	1200	2610	2520	2220	1090
21	2700	2310	5190	4550	---	---	1440	1290	2790	2550	2340	1050
22	2850	2640	4620	3120	---	---	1590	1440	2580	2370	1470	1140
23	3510	2050	4500	3530	---	---	1630	1560	2460	1320	1250	1200
24	4530	3510	5220	4020	---	---	1740	1520	---	---	1390	1250
25	4230	3540	4680	3560	---	---	1650	1290	---	---	---	---
26	5310	3720	3630	3480	---	---	1290	910	---	---	---	---
27	5190	3060	4110	3480	---	---	810	720	510	360	690	630
28	3030	2700	5370	3180	1380	1290	790	720	510	420	720	650
29	2850	2700	3270	2580	1440	1170	950	720	---	---	690	300
30	3810	2980	2940	2460	1500	1230	950	900	---	---	420	350
31	4470	3780	---	---	---	---	1050	900	---	---	420	330
MONTH	7680	1920	7320	2460	2520	840	2040	720	2880	360	3870	210

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	450	390	780	560	750	600	5610	4020	3100	2520	---	---
2	480	420	900	810	930	750	4890	3390	3180	900	---	---
3	420	330	1110	930	1080	930	3420	2520	1110	810	---	---
4	420	330	1170	1080	1260	1110	2730	2520	1140	810	---	---
5	420	390	1290	1170	1830	1260	3630	2540	1470	840	---	---
6	450	360	1620	1260	2010	1770	2910	2250	1830	1320	---	---
7	450	450	1320	1230	2010	1830	2550	2160	1980	1740	---	---
8	570	480	1380	1350	2280	1950	2750	2310	2640	1980	---	---
9	600	360	1530	1380	2310	1800	3330	2700	3210	2550	---	---
10	390	330	1800	1500	2220	1620	4350	3360	3270	2640	---	---
11	480	360	2190	1800	2160	1620	4620	2850	3810	3270	---	---
12	510	420	2130	450	1710	990	3990	2970	4380	3240	---	---
13	510	450	480	330	1110	840	4050	3180	4320	2580	---	---
14	510	450	390	300	840	690	4110	3420	3510	2920	---	---
15	540	480	480	390	690	570	5310	4050	---	---	---	---
16	540	510	540	480	1230	630	5530	3480	---	---	---	---
17	510	480	720	570	1590	1260	5340	4200	---	---	330	240
18	600	480	990	750	2130	1620	5340	4680	---	---	420	240
19	690	500	1170	990	2340	1680	5450	3750	---	---	480	350
20	780	560	1410	1200	2070	1860	4830	3480	---	---	630	510
21	870	780	1800	1440	3600	2070	4090	3180	---	---	990	690
22	1050	900	1770	1590	3690	2760	3900	3210	---	---	1470	1110
23	1110	1020	1770	1550	2940	2760	4410	2490	---	---	1740	1470
24	1170	1080	2220	1550	3150	2910	5450	3000	---	---	1920	1770
25	1230	1200	2580	300	3120	2820	6270	3990	---	---	2450	1950
26	---	---	330	270	3090	2580	5290	4410	---	---	2520	2150
27	---	---	330	270	3540	1980	6450	3530	---	---	2550	2070
28	1680	750	390	330	4140	3150	7550	3570	---	---	3030	2340
29	930	600	420	360	5370	4020	6270	1800	---	---	4110	3000
30	690	630	510	390	5700	5220	1850	1590	---	---	3360	2850
31	---	---	570	450	---	---	2490	1860	---	---	---	---
MONTH	1680	330	2580	270	5700	570	7550	1590	4380	810	4110	240
YEAR	7680	210										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.0	7.7	8.2	7.9	7.6	7.5	---	---	7.1	6.9	7.0	6.9
2	8.2	7.6	8.3	7.9	7.8	7.5	---	---	6.9	6.8	7.0	6.9
3	8.1	7.6	8.1	7.8	7.8	7.6	---	---	7.0	6.8	6.9	6.7
4	7.9	7.8	8.1	7.9	7.7	7.6	---	---	7.0	6.9	6.9	6.5
5	7.9	7.8	8.0	7.8	7.7	7.6	---	---	7.0	6.9	7.2	6.5
6	7.9	7.7	8.0	7.3	7.6	7.5	6.8	6.5	7.2	6.7	7.3	6.7
7	8.1	7.9	7.8	7.4	7.6	7.5	7.0	6.8	7.1	7.0	6.8	6.7
8	8.2	8.1	8.1	7.7	7.7	7.6	7.1	6.9	7.2	7.0	6.9	6.8
9	8.1	8.1	8.1	7.8	7.6	7.5	7.0	6.9	7.1	7.0	7.0	6.9
10	8.1	8.0	8.0	7.8	7.5	7.0	7.3	6.9	7.3	7.0	7.2	7.0
11	8.1	8.0	8.2	7.8	7.4	7.3	7.2	7.1	7.2	6.9	7.3	7.2
12	8.0	7.8	8.0	7.7	7.5	7.4	7.2	7.1	7.3	7.0	7.3	7.1
13	8.0	7.8	7.8	7.7	7.6	7.5	7.2	7.2	7.2	7.0	7.5	7.3
14	8.2	7.9	7.8	7.5	7.6	7.4	7.5	7.2	7.2	7.1	7.6	7.5
15	8.4	8.1	7.6	7.4	7.5	7.4	7.4	6.9	7.3	7.2	7.6	7.4
16	8.3	7.9	7.6	7.4	7.6	7.4	7.3	7.2	7.3	7.2	7.5	7.4
17	8.5	8.2	7.6	7.5	7.6	7.6	7.2	7.1	7.3	7.0	7.6	7.4
18	8.6	8.2	7.7	7.5	7.6	7.5	7.2	7.0	7.3	7.1	7.6	7.5
19	8.2	8.1	7.6	7.6	7.7	7.6	7.1	6.9	7.2	7.1	7.7	7.5
20	8.3	8.1	7.7	7.5	7.6	7.3	7.1	7.0	7.2	7.1	7.7	7.5
21	8.6	8.0	7.7	7.5	7.7	7.4	7.2	7.1	7.3	7.2	7.7	7.6
22	8.5	8.0	7.6	7.5	7.5	7.4	7.2	7.0	7.3	7.2	7.7	7.5
23	8.3	8.0	7.8	7.5	7.6	7.3	7.1	7.0	7.6	7.3	7.7	7.5
24	8.2	7.9	7.7	7.7	7.5	7.4	7.2	7.1	7.3	7.1	7.9	7.7
25	8.3	7.9	7.8	7.7	7.5	7.5	7.2	7.2	7.4	7.0	7.7	7.6
26	8.1	7.0	7.8	7.6	7.6	7.5	7.2	7.0	---	---	7.8	7.7
27	8.0	7.9	7.8	7.7	7.6	7.5	6.9	6.9	6.9	6.7	7.8	7.6
28	8.3	8.0	7.8	7.7	7.6	7.5	6.9	6.8	7.0	6.7	7.9	7.5
29	8.2	7.9	7.7	7.5	7.6	7.6	6.9	6.5	---	---	7.8	7.4
30	8.3	7.9	7.8	7.6	7.7	7.5	6.9	6.5	---	---	7.4	7.2
31	8.3	8.0	---	---	7.6	7.0	7.1	6.8	---	---	7.6	7.2
MONTH	8.6	7.0	8.3	7.3	7.8	7.0	7.6	6.5	7.6	6.7	7.9	6.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.6	7.5	8.7	8.1	7.3	7.2	7.8	7.4	8.1	7.7	8.4	8.0
2	7.7	7.5	8.8	8.0	7.7	7.2	7.9	7.3	8.0	7.7	8.2	7.9
3	7.6	7.4	8.8	7.9	7.9	7.4	8.0	7.5	8.4	7.8	8.2	7.8
4	7.6	7.4	8.8	8.2	7.9	7.4	8.0	7.6	8.6	8.1	8.3	7.9
5	7.6	7.5	8.8	8.3	7.9	7.6	8.3	7.9	8.6	8.2	8.1	7.9
6	7.6	7.5	8.9	8.1	7.9	7.6	8.4	8.0	8.6	8.3	8.3	7.7
7	7.6	7.5	8.8	7.9	7.9	7.7	8.3	8.0	8.4	8.1	8.1	7.9
8	7.7	7.6	8.5	7.7	7.8	7.5	8.2	7.9	8.5	8.1	8.2	8.0
9	7.8	7.4	8.2	7.8	7.6	7.6	8.1	7.8	8.4	8.2	8.6	8.1
10	7.4	7.2	8.2	7.7	7.7	7.5	8.1	7.9	8.4	8.1	8.4	8.2
11	7.5	7.3	7.9	7.7	7.7	7.6	8.2	7.9	8.2	8.1	8.4	8.1
12	7.7	7.5	8.1	7.7	7.9	7.7	8.3	7.9	8.3	8.1	8.6	8.1
13	7.6	7.5	7.9	7.5	7.9	7.8	8.2	7.8	8.3	8.1	8.6	8.1
14	7.7	7.5	7.6	7.5	7.9	7.9	8.1	7.8	8.3	8.1	8.0	7.3
15	7.8	7.7	7.8	7.6	7.9	7.8	8.2	7.7	8.2	8.1	7.2	7.1
16	7.8	7.8	8.1	7.8	7.8	7.7	8.6	7.8	8.4	8.1	7.2	7.1
17	7.8	7.7	8.2	7.6	---	---	8.5	7.8	8.4	8.2	7.4	7.2
18	7.9	7.8	8.4	7.6	---	---	8.5	7.9	8.3	7.5	7.6	7.0
19	7.9	7.8	8.5	7.7	7.7	7.6	8.6	8.0	8.3	7.2	7.5	7.2
20	8.0	7.8	8.3	7.9	7.9	7.6	8.5	7.9	8.4	7.9	7.6	7.4
21	8.0	7.7	8.2	7.8	7.8	7.6	8.6	7.9	8.5	7.9	8.0	7.6
22	8.2	7.9	8.2	7.9	8.0	7.7	8.4	7.9	8.5	8.0	7.9	7.7
23	8.3	7.9	8.3	8.0	8.0	7.9	8.6	8.1	8.5	7.3	8.0	7.9
24	8.3	7.9	8.1	7.9	8.2	8.0	8.4	7.8	8.2	7.6	8.1	7.9
25	8.4	7.8	8.0	7.2	8.3	8.0	8.3	7.7	8.4	8.0	8.1	7.9
26	8.5	8.0	7.2	7.1	8.5	8.0	8.2	7.6	8.3	8.0	8.3	7.9
27	8.5	8.1	7.2	7.1	8.3	8.0	8.4	7.7	8.3	7.9	8.4	7.9
28	8.6	8.1	7.3	7.1	8.3	8.0	8.0	7.4	---	---	8.3	7.5
29	8.4	8.1	7.3	7.2	8.1	7.7	7.9	7.7	7.9	7.6	8.5	7.5
30	8.5	8.1	7.3	7.2	7.7	7.5	7.9	7.8	8.1	7.4	8.0	7.5
31	---	---	7.3	7.2	---	---	8.1	7.7	8.4	8.0	---	---
MONTH	8.6	7.2	8.9	7.1	8.5	7.2	8.6	7.3	8.6	7.2	8.6	7.0
YEAR	8.9	6.5										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	18.0	10.0	9.5	2.5	1.0	---	---	1.5	1.0	1.0	.5
2	19.0	18.5	9.5	9.0	2.5	2.0	---	---	1.0	.5	1.0	.5
3	19.0	18.0	10.5	9.0	4.5	2.0	---	---	1.0	1.0	1.0	.5
4	18.0	17.5	10.5	9.0	5.5	3.0	---	---	1.0	1.0	1.0	.5
5	17.5	16.5	11.5	10.0	3.0	2.0	---	---	1.0	1.0	2.0	1.0
6	17.0	15.0	12.0	11.0	3.0	1.5	1.0	.0	1.0	.5	1.5	1.0
7	15.0	11.5	11.5	10.0	4.0	2.5	1.0	.5	1.0	1.0	2.5	.5
8	12.5	11.0	10.5	9.0	4.5	4.0	1.0	.5	1.5	.5	3.0	.0
9	12.0	10.5	9.5	8.5	4.0	1.0	1.0	.5	1.0	1.0	3.0	1.5
10	13.5	11.5	9.0	8.0	1.0	.0	1.5	.5	1.5	1.0	4.0	2.5
11	14.5	13.5	9.5	8.5	1.5	.5	1.5	1.0	1.5	.5	3.5	2.0
12	15.5	14.5	9.5	9.5	2.0	1.5	1.5	1.0	1.0	.0	3.0	1.0
13	16.0	15.5	10.0	9.0	2.0	1.5	1.5	1.0	.5	.0	5.0	1.5
14	16.0	13.0	11.0	10.0	1.5	1.0	1.5	1.0	1.0	.5	5.0	3.0
15	13.0	11.5	10.5	9.5	2.0	1.0	1.5	.0	1.0	.5	2.5	1.0
16	12.0	9.5	10.0	9.5	2.0	1.0	1.0	.5	1.0	.5	3.5	1.0
17	11.0	9.0	9.0	8.5	2.5	1.5	1.5	1.0	1.0	.5	5.0	3.0
18	11.0	9.0	8.5	8.0	2.0	1.0	1.0	.0	1.0	.5	6.5	4.0
19	10.5	10.0	8.0	7.0	1.5	1.0	1.0	.5	1.0	.5	7.0	5.5
20	11.5	10.5	7.0	6.5	3.0	1.0	1.0	.5	1.0	.5	8.0	5.0
21	12.0	11.0	6.5	5.0	3.0	1.5	1.0	1.0	1.0	.5	9.5	6.5
22	13.5	12.0	5.0	4.5	1.5	1.0	1.0	.5	1.0	.5	10.0	7.5
23	14.0	13.0	5.5	5.0	2.0	1.0	.5	.5	.5	.5	11.5	9.0
24	13.0	11.0	6.0	5.5	1.5	1.0	1.0	.5	---	---	11.0	10.0
25	11.5	10.5	5.5	4.0	1.5	1.0	.5	.5	---	---	9.5	6.0
26	12.5	11.5	4.0	3.5	1.0	1.0	.5	.0	---	---	6.0	5.0
27	12.5	11.0	3.5	3.0	1.0	1.0	.5	.0	1.0	.0	6.5	4.5
28	11.5	9.5	3.0	1.5	1.5	1.0	.5	.0	1.0	.0	6.5	4.5
29	10.0	9.0	1.5	.5	1.5	1.0	.5	.5	---	---	8.0	6.5
30	10.0	9.0	2.5	1.5	1.5	1.0	1.0	.5	---	---	9.0	7.5
31	10.0	9.0	---	---	1.5	1.0	1.5	1.0	---	---	10.0	9.0
MONTH	19.0	9.0	12.0	.5	5.5	.0	1.5	.0	1.5	.0	11.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	9.0	14.0	11.0	18.0	15.0	24.0	22.0	27.0	26.0	25.5	25.0
2	10.5	9.0	15.0	11.5	21.0	17.5	22.0	20.0	27.0	23.5	25.5	25.0
3	10.5	9.0	15.0	14.0	22.0	20.0	20.5	20.0	25.5	23.0	25.5	24.0
4	9.5	6.5	15.0	13.0	23.0	21.0	21.5	20.5	26.5	24.5	25.5	24.5
5	9.0	7.5	13.5	11.5	24.0	22.5	22.5	21.0	27.0	25.5	26.0	25.0
6	8.0	6.5	15.5	13.0	23.5	22.5	23.5	21.0	27.5	26.5	26.0	25.0
7	7.5	5.5	18.0	15.0	24.5	23.0	24.0	22.0	26.5	26.0	26.0	24.5
8	7.0	5.5	20.0	18.0	25.0	24.0	24.5	22.0	27.0	25.5	24.5	23.0
9	6.0	3.5	23.0	20.5	26.5	24.5	24.5	24.0	26.5	26.0	23.0	21.0
10	6.0	3.0	24.5	23.0	26.5	25.0	25.0	24.0	25.0	25.0	21.5	20.5
11	6.5	3.5	24.5	23.5	26.5	23.0	26.0	24.0	25.5	24.0	21.5	21.0
12	8.5	5.5	24.5	20.5	24.0	21.5	28.0	25.5	24.0	23.0	22.5	21.0
13	9.5	8.0	20.0	17.5	23.5	21.0	28.0	26.5	23.5	21.5	23.0	21.5
14	11.5	9.0	19.0	16.0	23.5	21.0	27.5	27.0	23.0	22.0	22.5	18.0
15	11.5	9.5	19.5	19.0	24.5	22.0	28.5	27.5	22.5	20.5	18.0	17.5
16	9.5	8.5	19.5	19.0	25.0	21.5	30.0	28.5	22.5	20.0	17.5	17.0
17	10.5	7.5	19.5	17.5	24.5	23.0	30.0	29.0	22.0	20.5	18.0	16.5
18	11.0	8.0	20.5	17.5	25.0	21.5	29.0	25.5	20.5	20.0	17.5	16.5
19	11.0	9.5	21.0	19.0	21.5	20.5	28.0	26.0	22.5	20.0	17.5	16.5
20	12.5	10.5	21.5	20.0	23.0	21.0	27.5	26.0	22.0	21.5	17.0	16.0
21	14.5	11.5	23.0	21.5	24.0	23.0	27.5	26.0	23.0	22.0	16.5	16.5
22	14.0	13.5	22.0	19.5	25.0	24.0	26.5	25.5	23.5	22.5	16.5	15.5
23	15.5	12.5	20.0	19.0	25.0	23.5	26.5	25.5	24.0	23.0	16.5	15.5
24	15.5	14.5	19.0	17.5	23.5	21.5	27.0	26.0	25.0	24.0	16.5	16.0
25	18.0	15.5	17.0	12.0	21.5	20.0	27.0	26.0	25.0	23.5	17.5	16.0
26	18.5	17.0	12.5	11.5	23.5	20.5	26.5	26.0	24.5	22.5	19.0	17.0
27	17.5	13.0	13.5	12.0	24.0	22.0	26.5	25.5	22.5	21.5	19.0	18.0
28	12.5	11.5	13.0	12.5	24.5	23.0	26.0	24.5	---	---	19.0	18.5
29	12.5	11.5	14.0	12.5	24.5	24.0	25.0	24.0	23.0	22.5	20.5	18.5
30	12.5	10.5	14.0	12.5	24.5	24.0	26.0	24.0	24.5	23.0	21.0	19.5
31	---	---	15.0	13.5	---	---	26.5	24.5	26.0	25.0	---	---
MONTH	18.5	3.0	24.5	11.0	26.5	15.0	30.0	20.0	27.5	20.0	26.0	15.5
YEAR	30.0	.0										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	7.7	11.7	9.9	13.6	12.4	---	---	12.4	12.3	13.2	13.2
2	10.4	8.5	11.8	9.6	13.5	12.2	---	---	12.4	12.3	13.4	13.1
3	9.4	5.6	10.8	9.6	13.3	12.1	---	---	12.5	12.4	13.5	12.4
4	8.1	7.3	10.8	9.7	11.9	11.2	---	---	12.4	12.3	13.8	12.5
5	8.4	7.3	10.6	9.6	12.5	11.6	---	---	12.4	12.3	---	---
6	7.7	7.3	10.3	9.0	12.4	12.1	14.0	13.5	12.4	12.3	---	---
7	9.0	7.6	8.9	7.9	12.4	12.0	13.9	13.7	12.3	12.1	13.6	13.2
8	9.5	9.0	9.6	8.1	11.9	11.7	13.7	13.5	12.1	12.0	13.4	12.1
9	9.9	9.0	10.1	9.0	12.3	11.5	13.5	13.2	12.1	12.0	13.2	11.6
10	10.4	9.3	10.1	9.4	12.7	12.3	13.4	13.2	12.2	12.0	12.8	11.6
11	10.3	9.3	10.4	9.0	---	---	13.4	13.1	12.1	12.0	13.1	11.5
12	9.3	8.5	9.8	8.8	13.4	13.2	13.2	13.0	12.0	11.8	13.9	13.1
13	8.4	7.8	9.1	8.8	13.3	13.2	13.2	12.9	11.9	11.6	13.8	13.1
14	8.7	8.0	9.8	8.7	13.5	13.2	13.4	12.5	11.7	11.5	13.1	12.7
15	9.7	8.8	9.3	8.7	13.4	13.2	13.5	13.0	11.6	11.4	13.9	12.9
16	10.9	9.3	9.4	8.6	13.5	13.2	13.5	13.2	11.5	11.4	14.0	13.5
17	12.2	10.1	10.4	8.6	13.4	13.0	13.1	12.9	11.6	11.3	13.8	13.4
18	12.4	10.1	10.7	10.0	13.6	13.2	12.9	12.5	11.8	11.5	13.3	13.0
19	11.3	10.0	10.2	9.9	13.7	13.1	12.7	12.6	11.7	11.5	13.0	12.5
20	11.0	9.8	11.5	10.1	13.4	12.9	12.6	12.3	11.5	11.3	13.1	12.5
21	12.2	9.5	11.6	10.8	13.1	12.6	12.3	11.9	11.3	10.0	12.8	12.2
22	11.6	8.9	12.1	11.0	13.4	13.1	11.9	11.8	11.5	11.2	12.6	12.0
23	10.3	8.7	12.5	11.3	13.3	12.6	11.9	11.8	13.1	11.5	12.1	11.3
24	9.0	8.2	11.7	10.9	13.4	12.9	12.0	11.8	---	---	11.4	11.0
25	10.7	8.6	11.4	10.8	13.3	13.0	12.5	11.9	---	---	12.3	11.5
26	10.1	8.7	12.3	11.3	13.3	12.3	12.6	12.5	---	---	12.8	12.3
27	9.0	8.2	13.1	11.8	12.9	12.5	12.6	12.5	13.3	12.8	13.4	12.7
28	10.4	8.8	12.6	12.0	13.6	12.6	12.5	12.5	13.4	11.9	13.6	12.9
29	10.3	8.8	13.4	12.3	13.5	13.3	12.5	12.4	---	---	12.8	12.2
30	11.5	9.4	13.8	12.5	13.3	12.9	12.4	12.4	---	---	12.6	10.9
31	12.0	10.3	---	---	12.9	12.3	12.4	12.4	---	---	11.8	9.5
MONTH	12.4	5.6	13.8	7.9	13.7	11.2	14.0	11.8	13.4	10.0	14.0	9.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.2	9.5	13.5	10.6	9.5	9.0	7.0	4.8	8.0	6.4	7.8	6.5
2	10.8	9.1	11.7	10.5	9.0	8.4	8.6	5.7	7.6	6.1	7.6	6.7
3	10.9	9.4	11.7	9.0	9.9	7.9	8.9	7.5	9.6	6.3	8.0	6.2
4	10.9	9.4	11.8	9.1	10.1	7.9	8.9	7.8	---	---	8.1	6.4
5	10.9	10.5	12.2	9.9	10.1	7.7	9.4	8.1	---	---	7.7	6.1
6	11.4	10.9	12.3	9.5	9.5	8.7	10.0	8.3	---	---	7.7	6.1
7	11.6	11.0	11.7	8.8	10.2	8.0	9.9	8.0	9.7	7.7	6.6	5.8
8	11.8	11.4	10.9	8.3	8.4	7.0	9.2	8.1	---	---	7.3	5.6
9	13.6	11.5	9.7	7.7	8.1	7.0	8.8	7.9	8.2	7.5	8.7	5.9
10	13.6	11.2	9.1	5.9	7.6	5.3	8.4	7.5	---	---	8.2	7.3
11	13.2	11.7	8.3	7.0	7.7	6.4	9.8	7.6	7.3	6.5	8.4	6.8
12	12.7	12.1	8.6	7.1	9.6	7.1	---	---	8.8	6.3	9.3	7.2
13	12.3	11.9	8.8	8.2	10.0	7.5	---	---	8.7	7.1	9.7	7.7
14	12.1	11.0	9.5	8.2	9.5	7.4	---	---	9.3	6.7	8.0	7.0
15	11.6	10.9	9.1	7.8	8.1	7.0	---	---	7.5	6.3	8.1	7.3
16	11.9	11.4	9.7	8.1	8.0	6.5	---	---	8.7	6.7	8.3	7.7
17	12.2	11.3	10.1	8.4	7.9	6.3	---	---	8.8	7.5	8.4	7.3
18	12.5	11.3	10.8	8.2	7.4	6.0	---	---	7.8	6.7	7.5	7.1
19	11.6	10.2	10.7	8.1	8.4	6.0	---	---	8.5	6.6	7.6	7.0
20	11.5	10.7	10.1	7.7	8.3	7.4	---	---	9.1	6.6	7.8	7.1
21	11.4	9.8	8.9	7.0	7.8	6.8	---	---	---	---	7.8	7.5
22	11.2	9.5	9.2	8.2	8.1	6.3	---	---	---	---	7.6	7.0
23	11.9	10.0	9.5	8.2	7.4	6.7	---	---	---	---	7.8	7.0
24	11.6	9.2	9.0	7.7	8.5	7.1	---	---	---	---	7.9	7.3
25	11.7	8.8	10.0	7.8	9.9	7.8	---	---	---	---	7.8	7.4
26	11.7	8.4	10.0	9.2	10.8	8.6	---	---	---	---	8.1	7.3
27	11.1	8.3	9.5	9.1	9.8	8.5	---	---	---	---	7.7	7.2
28	12.5	10.2	9.7	9.2	10.6	8.7	---	---	---	---	7.6	7.1
29	12.2	10.5	9.9	9.2	8.5	6.6	6.9	5.7	7.2	6.7	8.5	7.0
30	12.6	11.0	10.1	9.4	6.3	5.3	7.0	5.7	7.8	6.7	7.8	7.1
31	---	---	10.1	9.6	---	---	8.3	5.7	8.0	6.4	---	---
MONTH	13.6	8.3	13.5	5.9	10.8	5.3	10.0	4.8	9.7	6.1	9.7	5.6
YEAR	14.0	4.8										

04212500 ASHTABULA RIVER NEAR ASHTABULA, OH

LOCATION.--Lat 41°51'20", long 80°45'44", Ashtabula County, Hydrologic Unit 04110003, on left bank at downstream side of State Road bridge, 1.1 mi (1.8 km) upstream from Hubbard Run, 1.3 mi (2.1 km) southeast of Ashtabula, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--121 mi² (313 km²).

PERIOD OF RECORD.--July 1924 to December 1935, March 1939 to November 1947, March 1950 to current year.

REVISED RECORDS.--WSP 954: 1929(M). WSP 974: 1942. WSP 1437: 1926, 1932, 1934. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 612.50 ft (186.690 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Aug. 27, 1924, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Sediment data collected at this site 1970 to 1974.

AVERAGE DISCHARGE.--48 years, 151 ft³/s (4.276 m³/s), 16.95 in/yr (431 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) Jan. 22, 1959, gage height, 11.03 ft (3.362 m); no flow at times during most years.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,600 ft³/s (73.6 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 1	1245	3400	96.3	4.24	1.292	Mar. 4	0815	3500	99.1	4.92	1.500
Feb. 24	0945	---	---	a6.87	2.094	Sept. 14	2230	*8050	228	*8.47	2.582

Minimum daily discharge, 1.9 ft³/s (0.054 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	12	39	2760	100	326	371	53	57	7.1	25	24
2	3.6	9.7	31	1910	90	360	584	41	43	14	98	15
3	2.6	8.5	42	476	85	715	1360	36	30	16	72	11
4	4.5	7.5	342	201	80	2310	472	33	22	14	32	8.7
5	5.3	5.7	295	121	78	2600	621	32	18	12	19	7.1
6	5.3	4.9	137	110	75	1090	395	29	18	9.3	13	5.8
7	21	5.7	80	100	72	472	260	25	19	7.1	8.7	4.8
8	30	5.7	80	95	70	420	171	22	17	5.8	5.8	4.5
9	19	5.7	648	93	70	337	1360	19	18	5.1	4.5	5.1
10	12	4.9	372	90	68	426	1200	16	21	4.8	3.8	4.1
11	9.0	4.9	181	88	68	383	401	14	48	3.8	16	2.9
12	7.0	6.5	137	86	68	210	350	46	82	79	15	2.4
13	9.0	7.0	100	85	68	167	401	188	48	44	10	2.2
14	39	8.0	95	150	65	220	316	201	26	120	7.6	3380
15	103	6.5	90	220	65	247	247	95	18	53	5.5	3410
16	82	5.3	100	150	65	147	224	53	13	24	4.1	747
17	57	6.1	112	130	65	133	270	35	10	14	3.5	224
18	35	7.5	144	110	65	123	194	24	8.1	8.7	5.5	99
19	24	7.0	115	100	65	110	120	18	6.7	6.2	13	52
20	18	12	100	95	70	93	85	14	5.5	4.8	14	32
21	13	9.7	318	93	87	72	53	16	5.5	3.8	10	21
22	9.7	9.0	360	90	154	57	55	13	5.1	2.9	7.1	15
23	8.0	9.7	185	95	600	49	46	11	3.8	4.5	5.8	12
24	5.3	18	127	110	1800	51	40	12	3.5	2.6	22	10
25	4.9	14	110	390	1200	179	35	520	2.9	2.0	285	8.8
26	9.0	23	90	420	562	233	33	1150	2.4	2.0	82	7.9
27	18	25	80	240	326	171	51	404	2.0	1.9	38	6.5
28	39	45	75	170	300	159	116	205	2.6	5.1	25	9.1
29	31	71	77	140	---	800	93	175	4.5	22	26	16
30	21	49	97	120	---	1030	70	123	6.7	19	101	23
31	15	---	378	110	---	766	---	82	---	16	51	---
TOTAL	663.4	406.5	5137	9148	6481	14456	10004	3710	567.3	534.5	1028.9	8170.9
MEAN	21.4	13.6	166	295	231	466	333	120	18.9	17.2	33.2	272
MAX	103	71	648	2760	1800	2600	1360	1150	82	120	285	3410
MIN	2.6	4.9	31	85	65	49	33	11	2.0	1.9	3.5	2.2
CFSM	.18	.11	1.37	2.44	1.91	3.85	2.75	.99	.16	.14	.27	2.25
IN.	.20	.12	1.58	2.81	1.99	4.44	3.08	1.14	.17	.16	.32	2.51

CAL YR 1978 TOTAL 40880.03 MEAN 112 MAX 2400 MIN .46 CFSM .93 IN 12.57
WTR YR 1979 TOTAL 60307.58 MEAN 165 MAX 3410 MIN 1.9 CFSM 1.36 IN 18.54

a ice jam

04212700 ASHTABULA RIVER AT ASHTABULA, OH

LOCATION.--Lat 41°54'00", long 80°47'44", in T.13 N., R.3 W., Ashtabula County, Hydrologic Unit 04110003, on right bank at Jack's Automarine in Ashtabula, 600 ft (183 m) upstream from bridge on State Highway 531, 4,000 ft (1,219 m) upstream from mouth, and 4,000 ft (1,219 m) downstream from Fields Brook.

DRAINAGE AREA.--136 mi² (352 km²).

PERIOD OF RECORD.--June 1968 to Sept. 1979 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1968 to Sept. 1979 (discontinued).
pH: June 1968 to Sept. 1979 (discontinued).
WATER TEMPERATURES: June 1968 to Sept. 1979 (discontinued).
DISSOLVED OXYGEN: June 1968 to Sept. 1979 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for gaging station near Ashtabula (station 04212500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,030 micromhos Aug. 20, 1970, Dec. 20, 1973, Jan. 27, Feb. 3, 4, Aug. 30, Sept. 1, 1974; minimum, 39 micromhos June 18, 1972.
pH: Maximum, 11.7 units Aug. 22, 1970; minimum, 4.4 units Sept. 28, 1970.
WATER TEMPERATURES: Maximum, 29.0°C Aug. 23, 24, 1968, July 7, 1977, July 22, 1978; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.2 mg/L Apr. 10, 1979; minimum, 0.0 mg/L Mar. 16, 17, 1971.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum 2,480 micromhos Oct. 31; minimum, 147 micromhos Sept. 15.
pH: Maximum, 8.6 units July 6; minimum, 6.3 units Jan. 1, Sept. 15.
WATER TEMPERATURES: Maximum, 28.5°C July 23; minimum, 0.0°C on many days during winter period.
DISSOLVED OXYGEN: Maximum, 15.2 mg/L Apr. 10; minimum, 3.0 mg/L June 19.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1520	849	2440	596	1190	843	510	288	387	345	540	378
2	1510	474	867	527	1210	693	300	258	399	366	540	423
3	780	480	879	545	1210	633	426	305	378	360	441	363
4	1420	714	927	533	1380	691	490	426	408	372	354	195
5	1420	415	966	702	684	576	570	369	414	396	201	174
6	1540	1120	1370	951	747	588	395	351	426	387	249	204
7	1700	1260	1420	545	897	735	435	378	414	360	363	252
8	1660	1330	1260	564	1200	867	507	384	441	360	366	303
9	1410	708	948	738	1220	441	459	408	399	342	450	312
10	1070	512	1290	888	501	441	409	345	384	342	525	375
11	1060	569	1710	741	651	504	350	327	363	333	417	327
12	1120	412	1540	593	723	660	423	339	357	333	402	285
13	1470	421	1800	768	771	753	597	363	354	339	588	318
14	1570	481	2000	987	882	780	934	403	366	345	804	609
15	1460	717	1440	780	870	735	1130	504	540	333	720	402
16	906	524	1260	536	831	768	624	450	624	330	444	402
17	936	453	1200	777	996	822	531	378	417	327	441	351
18	669	450	1340	993	951	684	579	379	366	345	741	375
19	918	527	1160	943	870	654	732	510	366	336	810	705
20	951	456	1360	579	861	696	627	453	351	333	852	630
21	786	480	1040	545	954	531	507	399	354	336	846	741
22	1040	792	855	573	528	492	455	365	420	333	951	831
23	1210	744	864	624	564	474	435	384	1230	423	981	879
24	1340	527	1190	789	672	474	417	375	768	315	1030	960
25	954	739	1190	792	852	630	735	381	315	279	1270	807
26	1430	548	921	612	---	---	645	513	348	282	774	555
27	1310	792	962	566	---	---	531	426	390	324	684	453
28	1140	783	---	---	726	666	439	393	402	318	810	462
29	1140	512	---	---	858	630	444	405	---	---	822	363
30	1300	483	1220	930	927	810	411	354	---	---	381	315
31	2480	463	---	---	1090	519	350	345	---	---	348	305
MONTH	2480	450	2440	564	1380	441	1130	258	1230	279	1270	174

04212700 ASHTABULA RIVER AT ASHTABULA, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	426	345	1020	934	906	654	1910	1550	1680	924	1080	573
2	591	342	1030	916	945	555	1950	1600	1830	1340	1010	531
3	321	258	1010	906	897	513	2110	1360	1470	882	897	699
4	480	276	1150	960	948	432	1890	1100	960	870	1250	875
5	459	327	1360	1210	873	483	1770	1010	1180	873	1540	1080
6	444	369	1390	1310	834	651	1430	984	1660	762	1350	1150
7	426	384	1310	1010	1320	564	1430	739	1500	897	1420	1130
8	699	378	1110	636	993	615	1290	819	1550	1260	1660	1390
9	681	237	918	504	1060	582	1730	590	1630	1270	1640	939
10	276	231	1170	594	1050	624	1450	762	1740	1340	1460	942
11	396	288	1160	645	1070	690	1430	789	2150	1690	1450	849
12	486	396	1230	515	1160	966	1430	815	1880	1250	1260	723
13	429	369	1460	576	966	855	1210	688	1250	1090	1370	864
14	531	432	603	519	966	684	1070	705	1580	1210	1960	150
15	492	432	---	---	948	624	696	534	1710	1420	225	147
16	567	489	735	545	1010	612	720	573	1570	426	360	222
17	510	384	780	507	1140	663	771	581	978	408	423	339
18	630	456	915	705	894	792	959	587	1110	837	636	379
19	603	459	960	399	1290	708	1120	720	1340	621	755	605
20	864	453	792	426	1440	597	1190	747	1370	591	834	612
21	906	723	783	564	1010	717	1210	1050	1160	516	831	654
22	978	729	1020	729	1200	693	1300	1070	1170	516	954	762
23	984	747	1100	919	1220	1040	1700	1010	1250	843	1020	609
24	1100	702	1130	906	1660	921	1750	1180	1350	948	1020	660
25	1180	558	1780	357	1510	924	1570	1220	1900	630	1110	900
26	1060	567	354	267	1580	1010	1290	1050	816	582	1230	690
27	945	672	399	297	1850	•1030	1340	828	879	687	1310	1020
28	1400	954	573	384	1560	1120	2050	777	1180	771	1640	1120
29	1110	816	657	468	1720	1150	2190	654	1240	1150	1770	1420
30	909	819	693	486	1910	1490	1490	755	1360	1070	1920	1540
31	---	---	834	564	---	---	1750	1220	1160	858	---	---
MONTH	1400	231	1780	267	1910	432	2190	534	2150	408	1960	147
YEAR	2480	147										

STREAMS TRIBUTARY TO LAKE ERIE

04212700 ASHTABULA RIVER AT ASHTABULA, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	7.5	7.8	7.5	7.5	7.3	6.7	6.3	6.8	6.7	7.2	7.1
2	8.0	7.5	7.8	7.6	7.6	7.3	6.6	6.4	7.1	6.9	7.3	7.2
3	8.0	7.7	7.8	7.6	7.6	7.3	6.9	6.5	7.0	6.8	7.3	7.2
4	7.7	7.5	7.7	7.6	---	---	6.8	6.7	7.1	6.8	7.2	6.9
5	7.6	7.4	7.6	7.5	---	---	7.1	6.8	7.2	6.8	7.2	6.9
6	7.5	7.4	7.5	7.4	---	---	7.1	6.9	7.5	6.9	7.1	6.9
7	7.5	7.3	7.8	7.4	---	---	6.9	6.8	7.2	6.9	7.2	7.1
8	7.5	7.3	7.8	7.6	---	---	7.5	6.9	7.3	7.1	7.2	7.2
9	7.8	7.4	7.7	7.5	---	---	7.5	7.2	7.7	7.1	7.3	7.2
10	7.8	7.6	7.6	7.4	---	---	7.5	7.3	7.8	7.1	7.3	7.2
11	7.7	7.0	7.8	7.4	---	---	7.5	7.3	8.0	7.3	7.4	7.3
12	7.4	7.2	7.8	7.4	---	---	7.4	7.3	8.0	7.4	7.4	7.2
13	7.5	7.4	7.6	7.2	---	---	7.4	7.2	8.1	7.9	7.4	7.2
14	7.6	7.4	7.4	7.2	---	---	7.3	7.0	8.0	7.9	7.5	7.4
15	7.6	7.4	7.5	7.2	---	---	7.2	6.7	8.1	7.8	7.4	7.3
16	7.9	7.5	7.6	7.4	---	---	7.3	7.1	8.1	7.8	7.4	7.3
17	8.0	7.5	7.5	7.4	---	---	7.0	7.2	8.2	8.0	7.3	7.2
18	8.0	7.6	7.4	7.3	---	---	7.3	7.0	8.1	8.0	7.4	7.2
19	7.6	7.5	7.4	7.2	---	---	7.0	6.9	8.1	8.0	7.4	7.3
20	8.0	7.5	7.5	7.3	---	---	7.2	6.9	8.1	8.0	7.5	7.3
21	7.9	7.6	7.5	7.2	---	---	7.3	7.1	8.1	8.0	7.4	7.4
22	7.6	7.5	7.5	7.3	---	---	7.2	7.2	8.0	7.9	7.4	7.3
23	7.5	7.5	7.5	7.3	---	---	7.5	7.0	8.0	7.4	7.5	7.4
24	7.8	7.4	7.4	7.3	---	---	7.1	6.9	7.4	7.0	7.5	7.5
25	7.6	7.5	7.5	7.4	---	---	7.1	6.9	7.1	7.0	7.5	7.4
26	7.6	7.4	7.6	7.5	---	---	6.9	6.7	7.1	7.1	7.6	7.5
27	7.6	7.4	7.5	7.3	---	---	6.8	6.7	7.1	6.9	7.6	7.5
28	7.6	7.4	---	---	6.9	6.8	6.7	6.5	7.2	7.0	7.6	7.5
29	7.8	7.4	---	---	7.0	6.7	6.7	6.5	---	---	7.6	7.2
30	7.9	7.6	7.4	7.2	6.9	6.7	6.8	6.6	---	---	7.3	7.2
31	7.7	7.4	---	---	6.8	6.6	6.8	6.7	---	---	7.3	7.3
MONTH	8.0	7.0	7.8	7.2	7.6	6.6	7.5	6.3	8.2	6.7	7.6	6.9

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.4	7.3	6.8	7.8	7.6	7.5	7.7	7.5	7.8	7.2	7.6	7.3
2	7.4	7.3	7.1	7.8	7.6	7.6	7.6	7.6	7.5	7.1	7.6	7.5
3	7.3	7.2	7.0	7.8	7.6	7.5	7.8	7.6	7.3	7.1	7.5	7.4
4	7.4	7.3	7.1	7.7	7.8	7.5	7.8	7.5	7.8	7.2	7.5	7.4
5	7.5	7.4	7.2	7.6	7.9	7.7	8.1	7.7	7.5	7.1	7.8	7.4
6	7.6	7.5	7.5	7.6	7.9	7.6	8.6	7.9	7.7	7.1	7.6	7.4
7	7.5	7.5	7.2	7.6	7.8	7.6	8.5	7.9	7.5	7.2	7.5	7.4
8	7.5	7.3	7.3	7.6	7.8	7.7	8.2	8.0	7.4	7.2	7.4	7.3
9	7.5	7.1	7.7	7.7	7.9	7.7	8.4	7.9	7.3	7.2	7.8	7.3
10	7.2	7.1	7.8	7.7	7.8	7.7	8.0	7.8	7.3	7.2	7.8	7.5
11	7.3	7.2	8.0	7.6	7.7	7.5	7.9	7.7	7.3	7.2	7.9	7.6
12	7.4	7.3	7.7	7.5	7.5	7.3	8.1	7.7	7.4	7.2	8.1	7.8
13	7.5	7.3	7.9	7.5	7.6	7.4	7.9	7.5	7.7	7.4	8.0	7.5
14	7.5	7.4	7.8	7.6	7.8	7.6	7.7	7.5	7.5	7.4	7.6	6.4
15	7.5	7.4	---	---	7.7	7.6	7.6	7.5	7.5	7.4	6.7	6.3
16	7.5	7.5	7.6	7.5	7.7	7.6	7.8	7.5	8.2	7.5	7.0	6.7
17	7.6	7.5	7.9	7.5	7.7	7.6	7.8	7.5	8.1	7.8	7.2	6.9
18	7.7	7.4	7.8	7.6	7.6	7.6	8.0	7.6	7.9	7.6	7.1	6.9
19	7.7	7.4	8.0	7.6	7.6	7.3	7.9	7.6	8.0	7.5	7.2	7.0
20	7.6	7.4	8.1	7.8	7.9	7.5	7.7	7.5	7.9	7.7	7.2	6.6
21	7.6	7.5	8.0	7.9	7.8	7.8	7.8	7.5	8.1	7.6	7.0	6.8
22	7.6	7.5	8.0	7.8	7.9	7.7	7.7	7.5	8.4	7.9	7.2	6.9
23	7.6	7.5	7.9	7.8	7.8	7.7	7.8	7.5	8.0	7.8	7.6	7.2
24	7.6	7.5	7.8	7.7	7.7	7.6	7.6	7.5	7.8	7.6	7.5	7.4
25	7.7	7.6	7.7	7.5	7.9	7.6	7.6	7.5	7.6	7.3	7.4	7.3
26	7.9	7.6	7.5	7.3	8.3	7.8	7.5	7.4	7.3	7.1	7.7	7.4
27	7.8	7.7	7.5	7.3	8.2	7.8	7.8	7.4	7.2	7.1	7.6	7.4
28	7.7	7.6	7.5	7.4	8.2	7.9	7.7	7.3	7.2	7.1	7.4	7.4
29	7.9	7.5	7.5	7.4	8.0	7.7	7.9	7.2	7.2	7.1	7.4	7.3
30	7.9	7.8	7.6	7.4	7.7	7.7	8.0	7.4	7.3	7.1	7.4	7.3
31	---	---	7.5	7.5	---	---	7.7	7.3	7.4	7.2	---	---
MONTH	7.9	7.1	8.1	7.3	8.3	7.3	8.6	7.2	8.4	7.1	8.1	6.3
YEAR	8.6	6.3										

04212700 ASHTABULA RIVER AT ASHTABULA, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	18.5	11.5	11.0	3.5	3.5	2.5	1.0	.5	.0	1.0	.5
2	19.0	18.0	11.0	10.5	4.5	3.5	2.5	.0	.0	.0	1.0	.5
3	18.0	17.5	11.5	11.0	5.0	3.5	.0	.0	.0	.0	1.0	.5
4	18.0	17.5	12.0	11.0	6.0	4.0	.0	.0	.0	.0	.5	.5
5	18.0	17.0	12.5	11.5	4.0	3.0	.5	.0	.5	.0	5.0	.5
6	17.0	16.0	13.0	12.0	4.0	3.5	.0	.0	.5	.0	1.0	.5
7	16.0	15.0	13.0	11.5	5.0	4.0	.0	.0	.0	.0	3.0	.5
8	15.0	13.5	12.0	11.0	5.5	5.0	.5	.0	.5	.0	4.0	1.5
9	14.0	13.0	11.0	10.5	6.0	2.0	.5	.0	.0	.0	4.0	2.5
10	14.0	13.0	11.5	10.5	1.5	.0	.0	.0	.0	.0	4.5	3.5
11	14.5	13.5	11.5	10.5	1.0	.0	.0	.0	.0	.0	4.0	1.5
12	15.0	14.5	11.5	10.5	1.5	1.0	.5	.0	.0	.0	1.5	.5
13	16.0	15.0	11.0	10.0	1.5	1.0	1.0	.5	.0	.0	3.0	1.0
14	15.5	14.0	11.5	11.0	1.0	1.0	1.5	.5	.0	.0	5.5	3.0
15	14.5	13.0	11.5	10.0	1.5	.5	1.5	.5	1.0	.0	4.5	.5
16	12.5	11.5	10.5	9.5	1.5	1.0	.5	.5	1.0	.0	2.0	.5
17	12.0	10.5	10.0	9.5	2.5	1.5	.5	.0	.5	.0	3.0	1.5
18	12.0	11.5	10.0	9.5	2.0	1.0	1.0	.0	.0	.0	6.0	2.5
19	11.5	11.5	9.5	8.5	1.5	.5	1.0	.5	.0	.0	7.0	6.0
20	12.0	11.5	9.5	8.0	2.5	1.0	.5	.5	.0	.0	7.5	5.5
21	12.5	11.5	8.0	7.5	2.5	.5	.5	.0	.0	.0	8.0	7.0
22	13.0	12.0	7.5	7.0	1.0	.0	.5	.0	.5	.0	9.0	7.5
23	13.5	12.5	7.5	7.0	1.0	.5	.5	.0	1.5	.5	10.0	8.5
24	13.0	12.0	8.0	7.0	1.5	.5	.5	.0	.5	.5	10.5	10.0
25	12.0	11.5	7.5	5.5	1.5	1.0	.5	.0	.5	.0	11.0	8.5
26	13.0	12.0	6.5	5.5	---	---	.5	.5	.5	.0	8.5	4.5
27	12.5	11.5	6.0	5.5	---	---	.5	.5	.5	.5	5.0	3.5
28	12.0	11.0	---	---	.5	.0	.5	.5	.5	.5	5.5	3.5
29	11.5	11.0	---	---	1.0	.0	.5	.0	---	---	8.0	5.5
30	11.5	10.5	4.0	3.5	2.0	.5	.5	.0	---	---	10.0	8.0
31	11.5	10.5	---	---	2.5	.5	.0	.0	---	---	10.5	10.0
MONTH	19.0	10.5	13.0	3.5	6.0	.0	2.5	.0	1.5	.0	11.0	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.0	8.0	12.5	11.0	18.5	14.5	23.0	21.0	27.0	26.5	26.0	24.5
2	10.0	8.0	12.5	11.0	18.5	14.0	21.5	21.0	28.0	27.0	25.5	23.5
3	10.5	9.0	13.0	12.0	19.0	14.5	22.5	21.0	27.5	26.0	25.0	24.0
4	9.0	7.5	13.0	12.5	19.0	14.5	22.0	21.0	28.0	26.0	26.0	24.5
5	7.0	5.5	13.5	13.0	18.0	15.5	21.5	20.5	27.5	26.0	27.0	25.0
6	7.0	4.0	14.5	13.5	19.5	17.5	22.5	20.0	27.5	26.5	26.5	25.5
7	5.0	3.5	15.5	14.0	22.0	17.5	22.5	21.5	27.5	26.5	26.0	25.0
8	6.0	4.5	18.0	12.0	21.0	18.0	23.0	21.5	28.0	26.5	25.0	23.5
9	4.5	2.0	16.5	11.5	23.5	18.5	24.0	22.0	27.0	26.5	23.5	22.5
10	5.0	1.5	20.0	12.5	23.5	20.5	24.5	21.0	26.5	26.0	23.0	22.0
11	6.0	3.5	18.0	13.0	21.5	19.5	23.5	21.0	26.5	25.0	22.5	22.0
12	8.0	6.0	17.0	13.5	22.0	21.0	26.0	21.5	25.5	24.0	22.5	21.5
13	10.0	8.0	18.0	17.5	22.5	20.5	26.5	23.0	24.5	24.0	22.5	21.0
14	11.5	9.5	17.5	17.0	23.0	20.5	26.0	22.5	24.5	23.5	23.5	17.5
15	12.0	9.5	---	---	23.0	20.0	25.5	22.5	23.5	22.0	17.5	16.5
16	9.5	8.0	19.0	17.5	23.5	20.5	26.5	24.0	22.0	21.5	18.0	15.5
17	9.5	7.0	18.0	15.0	24.5	21.0	26.0	25.5	22.0	21.5	18.0	17.0
18	10.5	9.5	18.5	17.0	22.5	21.5	27.0	25.5	21.5	21.0	19.0	17.5
19	12.0	9.5	19.5	14.0	22.5	21.0	26.5	25.5	22.0	21.5	19.0	18.5
20	12.0	10.5	17.0	12.5	24.0	19.5	26.5	25.5	22.5	21.5	19.0	18.5
21	13.0	12.0	16.5	14.5	22.0	19.5	27.0	26.0	23.0	22.0	19.0	18.5
22	14.0	11.5	17.0	15.5	22.5	19.5	27.0	26.0	24.5	22.5	18.5	18.0
23	14.0	11.5	17.5	15.0	22.0	20.5	28.5	25.5	24.5	23.0	18.5	17.5
24	14.5	11.5	17.5	15.5	21.0	19.5	28.0	25.0	24.0	23.0	18.5	17.5
25	14.5	10.0	17.0	10.5	21.0	19.5	26.5	25.5	25.0	23.0	18.5	17.5
26	15.0	9.5	10.5	10.0	22.5	20.5	26.0	25.0	23.5	22.5	19.0	18.0
27	13.5	11.0	12.5	10.0	23.0	20.5	26.0	25.0	23.0	22.0	20.0	18.5
28	13.5	12.0	13.0	12.5	22.0	21.0	26.5	25.0	24.0	22.5	19.5	19.0
29	12.5	11.0	14.5	13.0	23.0	21.5	27.0	25.5	24.0	23.5	20.5	19.5
30	11.5	11.0	15.0	12.5	23.0	21.5	27.0	25.5	26.0	23.5	21.0	20.0
31	---	---	15.5	13.5	---	---	28.0	26.5	25.0	24.5	---	---
MONTH	15.0	1.5	20.0	10.0	24.5	14.0	28.5	20.0	28.0	21.0	27.0	15.5
YEAR	28.5	.0										

04212700 ASHTABULA RIVER AT ASHTABULA, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.6	5.0	7.4	5.7	10.4	9.8	14.0	12.9	12.3	11.9	---	---
2	7.1	5.7	9.3	8.4	11.0	10.1	14.4	13.5	12.2	11.7	---	---
3	7.7	5.4	9.1	8.2	11.0	9.8	14.5	14.3	12.2	11.7	---	---
4	6.9	5.9	8.3	7.4	11.1	9.5	14.6	14.2	12.0	11.6	---	---
5	6.4	5.7	7.7	5.7	12.0	11.0	14.5	14.0	11.9	11.5	---	---
6	7.9	5.7	6.7	5.9	12.1	11.1	14.5	13.9	11.8	11.3	---	---
7	6.5	5.8	8.3	5.8	11.2	10.0	14.1	13.6	11.9	11.5	---	---
8	6.8	5.1	8.2	5.8	9.9	8.0	14.4	13.3	12.4	11.6	14.2	13.0
9	8.0	5.2	8.0	5.9	12.4	8.0	14.0	13.1	12.3	11.9	13.9	13.4
10	8.1	7.1	7.6	5.5	12.9	12.3	14.0	13.5	12.2	11.9	13.8	12.7
11	7.6	4.2	8.2	5.0	12.7	12.2	13.9	13.4	12.3	11.9	13.5	12.5
12	6.3	4.9	8.4	5.9	12.6	11.9	13.6	11.8	12.8	11.8	14.5	13.1
13	6.6	5.8	7.8	4.4	12.1	11.8	13.6	12.0	12.7	12.2	---	---
14	6.9	5.9	5.7	4.1	11.9	11.3	13.5	11.6	12.4	11.9	---	---
15	7.4	5.4	7.8	4.7	12.4	11.8	14.2	12.9	12.3	11.3	14.5	10.4
16	9.0	7.2	8.3	5.3	12.1	11.6	13.2	12.5	13.1	11.0	14.7	12.2
17	9.2	5.5	7.8	5.9	12.0	11.4	12.6	12.3	13.0	12.3	14.4	13.3
18	9.1	5.2	7.7	5.5	12.6	11.9	12.6	11.8	12.5	12.2	13.5	12.1
19	8.6	5.0	7.6	5.2	12.1	11.2	12.2	11.2	12.6	12.1	12.0	11.0
20	8.9	5.1	9.5	5.7	12.0	10.7	12.3	11.5	12.4	12.1	11.7	10.8
21	8.8	5.1	9.6	8.1	12.6	10.4	12.7	12.0	12.7	12.0	11.2	10.8
22	8.1	7.2	9.0	7.9	13.1	12.6	12.7	11.5	12.4	11.9	11.1	10.7
23	7.2	5.5	8.3	5.8	13.2	12.3	12.7	11.6	12.2	11.3	11.1	10.1
24	8.2	5.4	8.5	7.1	13.2	11.9	12.5	11.7	13.3	12.2	10.2	9.7
25	7.5	5.7	9.2	7.3	12.2	11.7	12.5	11.6	13.4	13.0	9.9	8.5
26	6.7	5.1	10.5	9.5	---	---	12.0	11.4	13.3	12.5	12.0	10.0
27	7.4	6.0	9.7	7.6	---	---	12.2	11.6	14.7	11.8	12.9	12.1
28	7.5	5.7	---	---	13.5	13.3	12.3	11.7	---	---	13.1	12.4
29	8.1	5.6	---	---	13.8	12.7	12.2	11.8	---	---	12.6	11.7
30	8.2	7.3	9.9	9.3	12.7	12.2	12.6	11.7	---	---	12.0	9.8
31	7.5	5.7	---	---	13.2	12.3	12.5	12.0	---	---	9.6	9.2
MONTH	9.2	4.2	10.5	4.1	13.8	8.0	14.5	11.2	14.7	11.0	14.7	8.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.6	9.2	12.9	11.9	---	---	5.5	5.0	6.5	4.0	6.1	3.7
2	11.5	9.2	13.0	11.4	---	---	5.0	4.4	5.0	3.7	5.8	4.9
3	11.9	11.3	12.4	11.4	---	---	6.0	4.2	5.4	3.4	5.4	4.2
4	12.1	11.7	11.4	10.4	9.3	8.3	6.2	4.4	6.5	4.1	5.7	3.9
5	13.1	11.8	10.3	9.3	9.5	8.3	7.7	5.4	5.6	3.4	6.1	3.7
6	13.8	12.2	9.3	9.1	9.1	7.5	9.9	6.9	5.5	3.2	5.2	3.4
7	14.7	13.3	10.5	9.7	8.5	6.7	9.3	7.2	5.3	4.2	4.2	3.3
8	14.2	12.8	11.7	9.9	8.2	7.4	8.2	7.1	5.5	3.6	4.6	3.5
9	14.8	13.0	12.5	10.6	9.0	7.6	8.4	5.7	4.9	3.9	6.4	3.8
10	15.2	13.5	11.4	10.3	8.4	7.3	7.2	5.7	4.7	3.4	7.2	5.8
11	14.5	13.3	10.7	9.5	7.6	5.2	6.4	5.3	4.3	3.9	7.6	5.8
12	14.1	12.3	10.7	7.6	5.2	4.2	8.0	5.9	4.8	3.9	7.9	6.4
13	13.3	12.5	9.5	5.1	5.7	4.3	7.0	4.6	8.2	6.2	7.7	5.5
14	13.0	12.1	9.6	8.8	7.4	5.5	5.9	4.1	6.9	6.0	7.3	5.6
15	12.9	11.9	---	---	7.4	5.4	6.1	4.9	6.9	6.2	8.1	7.4
16	12.9	12.3	---	---	6.9	5.2	6.4	4.5	8.4	6.2	8.1	7.2
17	14.5	12.9	---	---	7.5	5.1	6.2	5.0	8.3	7.5	8.3	6.8
18	14.1	12.8	---	---	6.1	4.7	8.4	4.9	7.7	6.7	7.9	7.2
19	14.1	12.1	---	---	5.3	3.0	6.5	4.4	7.8	6.2	7.3	6.7
20	13.2	11.5	---	---	8.3	4.1	5.9	4.1	7.7	6.8	7.1	6.3
21	12.3	11.5	---	---	8.2	7.2	6.8	4.8	8.1	6.5	6.7	5.9
22	11.9	10.9	---	---	8.9	7.0	6.7	4.6	10.3	7.2	6.4	5.7
23	11.6	10.7	---	---	7.9	6.8	6.9	4.3	8.1	6.6	7.5	6.2
24	11.4	10.8	---	---	7.0	5.9	5.8	4.2	7.2	6.1	7.5	6.9
25	12.0	10.8	---	---	8.5	6.1	5.5	4.1	7.3	5.7	7.2	6.5
26	12.2	10.5	---	---	10.4	7.4	5.1	3.8	7.1	5.1	8.0	6.9
27	11.9	10.8	---	---	10.3	7.6	6.5	4.1	5.5	4.9	8.5	6.7
28	10.8	9.5	---	---	8.7	7.2	6.1	4.5	5.4	4.6	6.9	5.9
29	12.6	9.3	---	---	8.0	6.1	7.5	3.8	5.1	3.9	6.4	6.1
30	13.0	11.2	---	---	6.1	5.3	8.3	5.4	5.5	3.7	6.2	5.7
31	---	---	---	---	---	---	7.3	4.2	5.7	3.5	---	---
MONTH	15.2	9.5	13.0	5.1	10.4	3.0	9.9	3.8	10.3	3.2	8.5	3.3
YEAR	15.2	3.0										

04213000 CONNEAUT CREEK AT CONNEAUT, OH

LOCATION.--Lat 41°55'37", long 80°36'15", Ashtabula County, Hydrologic Unit 04120101, on right bank at downstream side of Keefus Road bridge at Conneaut, and 6.4 mi (10.3 km) upstream from mouth.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--July 1922 to December 1935, March 1950 to September 1961 (published as "at Amboy"), October 1961 to current year.

REVISED RECORDS.--WSP 714: 1926. WSP 784: 1933. WSP 1437: 1923-25(M), 1926-30, 1931-32(M), 1933, 1935(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.30 ft (186.019 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good except those for periods when discharges below 30 ft³/s (0.85 m³/s) which are fair, and those for January to March which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--42 years, 263 ft³/s (7.448 m³/s), 20.41 in/yr (518 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s (481 m³/s) Jan. 22, 1959, gage height, 11.70 ft (3.566 m); maximum gage height, 12.94 ft (3.944 m) Mar. 4, 1934 (backwater from ice); minimum discharge, 0.2 ft³/s (0.006 m³/s) July 31, Aug. 1, 1933, Aug. 1, 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,900 ft³/s (82.1 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Jan. 2	1000	5620	159	7.71	2.350	Apr. 10	1200	3320	94.0	6.41	1.954
Feb. 24	---	unknown		unknown		Sept. 15	1800	*9760	276	*9.52	2.902
Mar. 4	0600	7460	211	[a]8.57	2.612						

Minimum daily discharge, 8.5 ft³/s (0.24 m³/s) July 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	37	88	2710	210	650	680	145	141	32	15	46
2	12	32	69	5070	190	800	655	119	103	52	25	30
3	14	29	77	3860	180	1010	2220	102	81	60	49	25
4	17	26	362	2000	170	4000	1270	94	67	59	53	22
5	20	25	666	1000	160	5700	836	103	59	41	31	20
6	35	24	283	700	150	3500	655	90	67	37	24	18
7	60	23	153	500	150	2500	458	78	89	33	21	16
8	108	23	123	400	150	1700	312	70	73	28	19	15
9	80	22	847	300	150	1200	1560	63	60	25	17	13
10	63	23	1010	250	150	900	2890	57	57	20	14	12
11	40	22	300	230	150	650	843	107	130	22	13	11
12	31	21	210	200	150	450	502	113	198	26	15	10
13	35	20	167	190	140	350	620	317	112	27	13	16
14	122	23	140	250	140	400	469	491	69	27	12	1860
15	283	29	130	450	140	350	392	229	50	31	11	7350
16	201	24	130	340	140	300	364	135	41	44	10	3000
17	127	21	143	280	140	250	469	95	35	31	11	297
18	80	23	185	240	140	220	363	74	32	24	13	152
19	60	25	170	220	140	200	227	61	31	19	16	95
20	46	29	138	200	140	170	172	55	30	15	19	68
21	38	30	427	190	150	140	143	60	29	12	21	52
22	31	27	684	190	200	126	124	50	26	10	16	43
23	28	28	304	180	1000	112	112	49	22	12	14	37
24	27	30	195	220	3300	117	102	50	19	9.5	21	32
25	27	51	165	350	2000	159	95	476	17	9.0	37	30
26	35	68	140	550	1200	275	92	1570	16	9.0	60	29
27	53	62	120	400	700	243	159	870	25	9.0	39	32
28	108	72	110	330	600	220	547	356	30	9.0	27	37
29	79	144	110	290	---	771	277	297	18	8.5	40	37
30	58	119	150	250	---	1580	185	238	25	8.5	157	45
31	44	---	300	230	---	1380	---	181	---	9.0	94	---
TOTAL	1972	1132	8096	22570	12230	30423	17773	6795	1752	758.5	927	13450
MEAN	63.6	37.7	261	728	437	981	592	219	58.4	24.5	29.9	448
MAX	283	144	1010	5070	3300	5700	2890	1570	198	60	157	7350
MIN	10	20	69	180	140	112	92	49	16	8.5	10	10
CFSM	.36	.22	1.49	4.16	2.50	5.61	3.38	1.25	.33	.14	.17	2.56
IN.	.42	.24	1.72	4.80	2.60	6.47	3.78	1.44	.37	.16	.20	2.86

CAL YR 1978 TOTAL 73038.0 MEAN 200 MAX 3500 MIN 5.0 CFSM 1.14 IN 15.53
WTR YR 1979 TOTAL 117878.5 MEAN 323 MAX 7350 MIN 8.5 CFSM 1.85 IN 25.06

[a] About

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1979

Station No.	Station name	Location	Drainage area (mi²)	Period of record	Annual maximum Date	 Gage height (feet)	 Discharge (ft³/s)
		Streams tributary to Lake Erie					
04176900	Hill Ditch near Richards, OH	Lat 41°39'54", long 83°40'05", Lucas County, Hydrologic Unit 04100001, at culvert on U.S. Highway 20, 1.4 mi (2.3 km) west of Richards, 0.8 mi (1.3 km) north of intersection of U.S. Highway 20 and State Highway 246.	*3.52	1947-79	9-14-79	12.30	147
04183750	Middle Fork Gordon Creek tributary at Hicksville,OH	Lat 41°18'58", long 84°46'00", Defiance County, Hydrologic Unit 04100005, at culvert on Hicksville-Edgerton Road, 0.2 mi (0.3 km) south of Middle Gordon Creek, 0.9 mi (1.4 km) north of Hicksville.	0.34	1978-79	1-01-79	95.91	20
04184750	Spring Creek at Fayette, OH	Lat 41°40'32", long 84°19'47", Fulton County, Hydrologic Unit 04100006, at culvert on Gorham Street 800 ft (240 km) north of U.S. Highway 20 in Fayette.	2.58	1978-79	3-04-79	95.24	100
04184760	Bean Creek tributary near Fayette, OH	Lat 41°39'08", long 84°17'34", Fulton County, Hydrologic Unit 04100006, at culvert on Fulton County Highway N, 1.5 mi (2.4 km) south of U.S. Highway 20, and 2.3 mi (3.7 km) southeast of Fayette.	0.56	1978-79	5-25-79	100.46	49
04185150	Beaver Creek tributary near Montpelier, OH	Lat 41°34'19", long 84°31'03", Williams County, Hydrologic Unit 04100006 on Williams County Road K, 2.0 mi (3.2 km) east of State Highway 15, and 4.7 mi (7.6 km) east of Montpelier.	0.40	1978-79	8-18-79	98.45	80
04185945	Auglaize River tributary near Spencerville, OH	Lat 40°42'27", long 84°19'06", Allen County, Hydrologic Unit 04100007, at culvert on State Highway 117, 1.8 mi (2.9 km) east of Spencerville.	0.51	1978-79	3-5-79	98.32	74
04186800	King Run near Harrod, OH	Lat 40°43'57", long 83°53'47", Allen County, Hydrologic Unit 04100007, at culvert on State Route 309, 0.9 mi (1.4 km) west of Allen-Hardin County line, 2.2 mi (3.5 km) northeast of Harrod.	0.53	1966-79	4-14-79	20.50	90
04187950	Rattlesnake Creek at Cairo, OH	Lat 40°49'45", long 84°05'31", Allen County, Hydrologic Unit 04100007, at culvert on State Route 65, 0.4 mi north of U.S. Highway 30 at Cairo.	2.65	1978-79	4-14-7	96.05	e260
04190350	Little Auglaize River tributary at Ottoville, OH	Lat 40°55'05", long 84°20'47", Putnam County, Hydrologic Unit 04100007, at culvert on State Highway 66, 1.0 mi (1.6 km) south of Ottoville.	1.04	1978-79	3-05-79	99.84	e60
04191480	Beetree Run near Junction, OH	Lat 41°13'26", long 84°24'33, Defiance County, Hydrologic Unit 04100007, at culvert on private drive from Bowman Road 12, near Sponseller Road 158, 3.2 mi (5.1 km) northeast of Junction.	1.66	1978-79	4-14-79	100.52	100

CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Annual maximum discharge at crest-stage partial-record stations during water year 1979

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
04192900	**Reitz Run at Waterville, OH**	Lat 41°29'50", long 83°42'35", Wood County, Hydrologic Unit 04100009, at culvert on State Highways 64 and 65, 0.1 mi (0.2 km) upstream from mouth, 0.5 mi (0.8 km) southeast of Waterville.	1.06	1966-78	4-14-79	18.17	28
04198100	**Norwalk Creek near Norwalk, OH**	Lat 41°13'58", long 82°32'28", Huron County, Hydrologic Unit 04100012, at bridge on county road, 300 ft (91 m) south of junction of State Highways 601 and 18, 4.0 mi (6.4 km) southeast of Norwalk, 6.0 mi (9.7 km) upstream from mouth.	4.92	1947-79	4-14-79	13.73	380
04199800	**Neff Run near Litchfield, OH**	Lat 41°12'33", long 82°01'26", Lorain County, Hydrologic Unit 041100001, at culvert on State Highway 83, 0.7 mi (1.1 km) north of county line, 2.8 mi (4.5 km) north of Litchfield.	0.76	1966-79	2-26-79	18.92	65
04212600	**Hubbard Run tributary at Ashtabula, OH**	Lat 41°50'38", long 80°46'42", Ashtabula County, Hydrologic Unit 041100003, at culvert on Seven Hills Road, 0.5 mi (0.8 km) upstream from mouth, 1.6 mi (2.6 km) south of center of Ashtabula.	0.88	1966-79	9-14-79	16.63	113

* Revised.
e Estimate.

CRAWFORD COUNTY

404838082563100. Local number, CR-1.

LOCATION.--Lat 40°48'38", long 82°56'31", Hydrologic Unit 04100011, Timken Roller Bearing Co., U.S. 30 in Bucyrus. Owner: Timken Roller Bearing Co.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 54 ft (15.5 m), cased.

DATUM.--Altitude of land-surface datum is 1039.13 ft (316.727 m). Measuring point: Floor of instrument shelter 3.50 ft (1.067 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of water.

PERIOD OF RECORD.--April 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.64 ft (11.473 m) Dec. 11, 1962; minimum daily low, 17.31 ft (5.276 m) May 21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 33.26 ft (10.138 m) Oct. 1; minimum daily low, 20.85 ft (6.355 m) Sept. 21.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.26	---	30.76	29.27	---	26.56	24.85	23.09	22.24	21.23	23.30	20.92
2	33.21	---	30.75	29.21	---	26.57	24.55	23.07	22.19	21.35	23.45	20.95
3	33.15	---	30.75	29.19	---	26.43	24.87	22.97	22.25	21.36	23.55	20.90
4	33.13	---	30.49	29.19	---	26.19	24.76	22.97	22.17	21.37	23.19	20.93
5	33.08	---	30.51	29.12	---	26.08	24.50	23.07	22.11	21.44	23.38	20.91
6	33.00	---	30.51	---	---	25.91	25.47	23.11	22.10	21.48	23.72	20.95
7	33.16	---	30.52	---	---	25.72	26.25	23.02	22.14	21.46	23.82	20.98
8	32.94	---	30.44	---	---	25.61	26.11	23.01	22.19	21.40	23.96	21.05
9	32.90	---	30.34	---	---	25.64	25.16	23.01	22.21	21.33	23.93	21.07
10	32.85	---	30.33	---	---	25.57	25.04	22.99	22.20	21.28	22.50	21.77
11	32.77	---	30.34	---	---	25.49	24.86	22.91	22.10	21.29	22.39	22.14
12	32.75	---	30.20	---	---	25.52	24.51	22.92	21.72	21.30	22.38	21.80
13	32.76	---	30.15	---	---	25.44	24.42	22.89	21.68	21.22	22.39	21.56
14	32.71	---	30.07	---	---	25.37	24.43	22.86	21.73	21.22	22.38	21.44
15	32.69	---	30.05	28.58	---	25.52	23.85	22.94	21.70	21.65	22.41	21.29
16	32.60	---	29.95	28.67	---	25.43	23.48	22.97	21.67	21.76	22.43	21.16
17	32.64	---	29.90	28.65	---	25.33	23.38	22.93	---	21.96	22.35	21.05
18	32.50	---	30.00	28.50	27.36	25.23	23.28	22.82	---	22.05	22.51	20.94
19	32.42	---	29.80	---	---	25.15	23.19	22.72	21.75	21.91	22.47	21.00
20	32.40	---	29.78	---	---	25.14	23.09	22.73	21.72	21.77	22.19	20.96
21	---	---	29.68	---	27.15	25.12	23.05	22.75	21.67	21.69	22.07	20.85
22	---	---	29.78	---	27.17	25.05	23.05	22.84	21.21	21.66	21.96	21.00
23	---	30.97	29.66	28.00	26.94	24.88	23.07	22.75	21.29	21.67	21.84	21.05
24	---	30.90	29.56	27.86	26.95	24.87	23.00	22.67	21.32	21.66	21.78	21.03
25	---	30.98	29.53	28.00	26.81	24.98	22.93	22.68	21.35	21.57	21.71	21.02
26	---	30.96	29.53	27.97	26.63	25.06	22.84	22.58	21.33	21.60	21.59	21.05
27	---	30.89	29.53	---	26.67	25.11	22.92	22.48	21.28	21.60	21.43	21.01
28	---	30.80	29.56	---	26.60	25.09	22.99	22.36	21.25	21.63	21.34	20.92
29	---	30.85	29.56	---	---	24.92	23.04	22.35	21.17	21.64	21.05	20.95
30	---	30.85	29.41	---	---	24.86	23.01	22.32	21.15	22.75	21.01	20.93
31	---	---	29.38	---	---	24.90	---	22.30	---	23.11	20.97	---
MAX	33.26	30.98	30.76	29.27	27.36	26.57	26.25	23.11	22.25	23.11	23.96	22.14

WTR YR 1979 MEAN 24.82 HIGH 20.85 LOW 33.26

GEAUGA COUNTY

412518081221500. Local number, GE-3A.

LOCATION.--Lat 41°25'18", long 81°22'15", Hydrologic Unit 04110003, 1.2 mi (1.9 km) southeast of Chagrin Falls. Owner: City of Chagrin Falls.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth drilled 120 ft (36.6 m), present depth 89 ft (27.1 m), cased.

DATUM.--Altitude of land-surface datum is 1130 ft (344 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--September 1951 to current year.

REMARKS.--Water level affected by pumping wells nearby for Chagrin Falls municipal supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.85 ft (16.109 m) Oct. 2, 1965; minimum daily low, 8.70 ft (2.652 m) May 17, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 27.62 ft (8.419 m) Sept. 27; minimum daily, 22.23 ft (6.776 m) May 6.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.95	25.56	26.47	25.84	26.13	25.74	24.57	23.35	23.11	24.88	26.30	27.10
2	25.02	25.60	25.61	25.80	25.26	26.01	24.14	23.47	23.18	25.20	26.35	27.04
3	24.93	25.63	25.48	26.90	25.13	25.83	24.46	22.64	23.13	25.19	26.42	27.12
4	25.00	25.58	25.22	26.94	26.09	25.51	24.30	22.55	23.01	25.22	26.47	27.19
5	25.08	25.60	26.32	26.96	26.19	25.51	23.93	22.49	22.92	25.46	26.49	27.16
6	24.91	25.65	26.72	26.60	26.17	25.52	24.17	22.23	23.04	25.53	26.52	27.00
7	25.11	25.74	26.77	26.47	25.89	25.36	24.23	22.36	23.13	25.55	26.51	27.20
8	25.28	25.82	26.51	26.44	25.14	25.31	23.98	22.70	23.19	25.51	26.55	27.35
9	25.35	25.74	26.51	26.53	25.27	25.43	23.51	22.82	23.34	25.42	26.71	27.40
10	25.35	25.89	26.88	26.56	26.31	25.25	23.91	22.94	23.18	25.42	25.42	27.25
11	25.27	25.95	25.95	25.62	26.35	25.19	23.59	22.93	23.16	25.58	26.60	27.39
12	25.06	26.05	25.81	25.38	26.12	25.42	23.53	23.05	23.33	25.60	26.67	27.37
13	24.51	26.03	25.66	26.19	26.25	25.27	23.45	23.17	23.70	25.50	26.73	27.28
14	24.17	26.01	25.81	25.32	26.18	24.99	23.32	23.22	23.87	25.61	26.74	27.23
15	24.00	26.20	25.63	25.60	25.91	25.54	23.22	23.31	23.91	25.74	26.87	27.42
16	23.88	26.20	26.82	25.47	25.42	25.47	23.30	23.58	23.93	25.85	26.96	27.51
17	24.28	26.05	26.94	25.27	25.61	25.42	23.07	23.67	23.90	25.92	26.85	27.49
18	24.53	26.24	25.95	26.53	25.43	25.26	23.30	23.54	24.32	25.95	26.68	27.25
19	24.49	25.36	26.90	25.43	26.29	25.14	23.32	23.40	24.44	25.98	26.92	27.44
20	24.64	26.45	25.63	25.85	26.23	25.03	23.26	23.33	24.35	26.01	26.86	27.41
21	24.74	26.38	25.75	25.59	25.95	25.03	23.18	23.37	24.35	26.00	26.98	27.30
22	24.86	26.35	25.90	25.23	25.27	25.02	23.21	23.66	24.46	26.05	26.96	27.45
23	25.04	26.16	25.99	26.21	25.00	24.73	23.34	23.54	24.67	26.10	26.95	27.62
24	25.14	26.18	26.84	25.71	26.11	24.37	23.23	23.35	24.81	26.13	26.84	27.60
25	24.92	26.29	26.90	25.96	25.99	24.63	23.06	23.29	24.92	26.01	27.04	27.55
26	25.01	26.34	27.01	26.02	25.65	24.95	22.59	23.03	24.87	26.09	27.06	27.62
27	25.24	26.19	27.18	25.95	25.91	25.19	22.93	23.07	24.84	26.15	26.97	27.50
28	25.41	26.46	27.32	25.81	25.93	25.14	22.99	23.11	24.88	26.17	26.96	27.16
29	25.54	26.52	27.27	26.01	---	24.73	23.25	23.13	24.78	26.27	26.94	27.13
30	25.60	26.43	27.15	26.05	---	24.64	23.19	23.13	24.72	26.30	27.10	27.02
31	25.52	---	27.13	25.93	---	24.55	---	23.19	---	26.24	27.18	---
MAX	25.60	26.52	27.32	26.96	26.51	26.01	24.57	23.67	24.92	26.30	27.18	27.62

WTR YR 1979 MEAN 25.49 HIGH 22.23 LOW 27.62

HANCOCK COUNTY

405332083421700. Local number, HA-15.

LOCATION.--Lat 40°53'32", long 83°42'17", Hydrologic Unit 04100008, 1.3 mi (2.1 km) southeast of Jenera.
Owner: Edgar Wilson.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth drilled 280 ft (85.3 m), present depth 278 ft (84.7 m), cased to 7 ft (2.1 m).

DATUM.--Altitude of land-surface datum is 850 ft (259 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 3.47 ft (1.058 m) Jan. 12, 1977; minimum daily low, 0.82 ft (0.250 m) above land-surface datum Mar. 15, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 3.28 ft (1.000 m) Nov. 11-12; minimum daily low, 0.44 ft (0.134 m) above land-surface datum Apr. 14.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.02	3.21	3.15	2.01	1.84	1.39	1.03	.99	.98	1.35	.83	.67
2	3.02	3.21	3.18	1.79	1.85	1.30	.95	.97	.99	1.40	.81	.54
3	3.01	3.21	3.13	1.82	1.82	1.24	.98	.95	.99	1.42	.94	.61
4	2.99	3.19	2.65	1.85	1.85	0.84	.95	.99	1.02	1.44	1.04	.67
5	2.96	3.19	2.70	1.85	1.85	0.94	.73	1.00	1.06	1.50	1.08	.69
6	2.99	3.22	2.78	1.78	1.84	1.02	.84	1.00	1.07	1.52	1.13	.76
7	3.03	3.22	2.76	1.75	1.82	1.08	.86	1.02	1.10	1.54	1.15	.85
8	3.07	3.22	2.60	1.76	1.88	1.15	.77	1.06	1.14	1.53	1.18	.91
9	3.08	3.22	2.49	1.76	1.90	1.16	.71	1.09	1.15	1.50	1.14	.92
10	3.09	3.25	2.55	1.77	1.91	1.11	.77	1.11	1.17	.86	.93	.94
11	3.05	3.28	2.54	1.79	1.91	1.17	.77	1.14	1.21	1.04	.98	.98
12	3.08	3.28	2.53	1.74	1.89	1.21	.54	1.15	1.25	1.12	1.04	.99
13	3.06	3.23	2.52	1.69	1.89	1.16	.55	1.16	1.29	1.15	1.08	.99
14	3.07	3.26	2.53	1.72	1.88	1.15	-0.44	1.17	1.29	0.79	1.15	.85
15	3.06	3.26	2.49	1.74	1.84	1.21	-0.11	1.22	1.30	.95	1.18	.71
16	3.14	3.25	2.49	1.71	1.96	1.22	.20	1.25	1.31	1.08	1.22	.75
17	3.15	3.17	2.52	1.67	1.99	1.19	.43	1.25	1.35	1.14	1.21	.79
18	3.12	3.20	2.51	1.73	1.95	1.15	.50	1.23	1.41	1.19	1.08	.83
19	3.09	3.23	2.47	1.72	1.94	1.11	.59	1.23	1.43	1.23	1.05	.88
20	3.10	3.23	2.42	1.61	1.93	1.10	.73	1.25	1.43	1.26	.95	.88
21	3.11	3.21	2.44	1.60	1.82	1.13	.75	1.31	1.37	1.27	.68	.91
22	3.12	3.20	2.44	1.69	1.79	1.12	.80	1.32	1.36	1.30	.72	.98
23	3.18	3.12	2.47	1.67	1.52	1.05	.82	1.30	1.40	1.32	.71	1.01
24	3.17	3.17	2.42	1.60	0.90	1.06	.81	1.28	1.45	1.34	.32	1.02
25	3.10	3.18	2.45	1.74	1.06	1.14	.80	1.11	1.48	1.27	.55	1.05
26	3.13	3.17	2.50	1.76	1.23	1.21	.80	.77	1.49	1.29	.62	1.06
27	3.15	3.12	2.53	1.75	1.37	1.24	.84	.83	1.50	1.30	.54	1.07
28	3.21	3.15	2.53	1.78	1.40	1.22	.89	.87	1.50	1.33	.57	1.05
29	3.22	3.13	2.50	1.80	---	1.09	.91	.90	1.47	1.36	.39	1.08
30	3.21	3.15	2.48	1.81	---	1.04	.95	.92	1.33	1.36	.54	1.09
31	3.21	---	2.42	1.79	---	1.03	---	.94	---	1.36	.64	---
MAX	3.22	3.28	3.18	2.01	1.99	1.39	1.03	1.32	1.50	1.54	1.22	1.09

WTR YR 1979 MEAN 1.64 HIGH 3.28 LOW -0.44

HARDIN COUNTY

404648083412600. Local number, HN-2A.

LOCATION.--Lat 40°46'48", long 83°41'26", Hydrologic Unit 04100007, at southeast edge of Dola.
Owner: Ohio Power Company

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 51 ft (15.5 m) cased.

DATUM.--Altitude of land-surface datum is 945 ft (288 m), from topographic map. Measuring point: Floor of instrument shelter 2.88 ft (0.878 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--December 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 15.86 ft (4.834 m) Jan. 20, 21, 1965; minimum daily low, 5.66 ft (1.725 m) Apr. 11.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 11.88 ft (3.621 m) Dec. 28; minimum daily low, 6.00 ft (1.829 m) Apr. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.40	10.90	11.42	11.26	9.74	8.55	6.99	6.31	6.41	6.48	7.01	6.59
2	9.47	10.87	11.62	11.44	9.80	8.69	6.92	6.37	6.43	6.74	7.03	6.43
3	9.37	10.84	11.61	11.55	9.71	8.66	7.02	6.18	6.39	6.79	7.09	6.46
4	9.43	10.81	11.19	11.57	9.66	8.21	6.96	6.24	6.21	6.77	7.13	6.48
5	9.44	10.73	11.24	11.57	9.70	7.88	6.53	6.32	6.22	6.96	7.19	6.45
6	9.50	10.88	11.69	11.21	9.68	7.88	6.87	6.45	6.25	7.06	7.10	6.30
7	9.69	10.94	11.70	10.97	9.41	7.73	6.90	6.62	6.33	7.07	7.10	6.45
8	9.86	10.98	11.48	10.90	9.55	7.52	6.56	6.61	6.45	7.07	7.16	6.62
9	9.91	10.89	11.48	10.90	9.74	7.60	6.43	6.50	6.45	6.99	7.27	6.63
10	9.91	11.05	11.75	10.95	9.73	7.61	6.52	6.68	6.40	6.79	7.11	6.53
11	9.82	11.15	11.78	10.97	9.74	7.52	6.59	6.72	6.48	6.73	6.98	6.57
12	9.77	11.20	11.70	10.68	9.57	7.60	6.35	6.70	6.55	6.78	7.09	6.57
13	9.88	11.20	11.53	10.31	9.61	7.61	6.22	6.79	6.65	6.79	7.10	6.52
14	9.95	11.21	11.61	10.57	9.57	7.30	6.14	6.78	6.60	6.64	7.11	6.42
15	9.96	11.37	11.43	10.67	9.15	7.71	6.18	6.82	6.58	6.71	7.33	6.62
16	10.26	11.37	11.38	10.48	9.84	7.73	6.25	6.88	6.50	6.86	7.40	6.57
17	10.42	11.23	11.66	10.20	9.98	7.69	6.32	6.90	6.40	6.98	7.38	6.55
18	10.33	11.35	11.65	10.42	9.95	7.59	6.34	6.76	6.62	7.00	7.25	6.55
19	10.18	11.54	11.40	10.35	9.74	7.33	6.33	6.59	6.70	7.02	7.10	6.48
20	10.17	11.63	11.26	9.62	9.69	7.20	6.27	6.53	6.67	7.02	7.14	6.48
21	10.19	11.63	11.30	9.46	9.41	7.08	6.20	6.54	6.53	7.03	7.07	6.35
22	10.23	11.61	11.34	9.83	9.51	7.09	6.32	6.56	6.49	7.00	7.05	6.42
23	10.50	11.27	11.48	9.77	9.18	7.01	6.33	6.55	6.67	7.00	6.92	6.59
24	10.50	11.39	11.43	9.36	9.18	6.56	6.26	6.57	6.77	7.04	6.78	6.58
25	10.20	11.48	11.37	9.65	9.07	6.55	6.12	6.56	6.90	7.06	6.94	6.54
26	10.40	11.42	11.60	9.65	8.69	6.75	6.00	6.37	6.89	6.92	6.94	6.61
27	10.50	11.19	11.80	9.55	8.78	6.93	6.15	6.35	6.81	6.94	6.89	6.55
28	10.78	11.50	11.88	9.53	---	7.12	6.15	6.38	6.49	6.97	6.78	6.45
29	10.90	11.44	11.82	9.65	---	6.92	6.28	6.40	6.64	---	6.53	6.48
30	10.90	11.47	11.58	9.69	---	6.90	6.27	6.40	6.43	---	6.66	6.45
31	10.85	---	11.58	9.62	---	6.98	---	6.39	---	---	6.66	---
MAX	10.90	11.63	11.88	11.57	9.98	8.69	7.02	6.90	6.90	7.07	7.40	6.67

WTR YR 1979 MEAN 8.36 HIGH 6.00 LOW 11.88

HENRY COUNTY

412123083574000. Local number, HY-2.

LOCATION.--Lat 41°21'23", long 83°57'40", Hydrologic Unit 04100009, 1.4 mi (2.3 km) southwest of McClure.
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 300 ft (91.4 m), cased to 43 ft (13.1 m).

DATUM.--Altitude of land-surface datum is 680 ft (207 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--June 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 22.60 ft (6.888 m) Feb. 7, 1975; minimum daily low, 14.55 ft (4.435 m) Mar. 22, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 22.32 ft (6.803 m) June 25; minimum daily low, 18.80 ft (5.730 m) Oct. 21.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.16	19.74	19.89	19.97	20.58	20.24	20.94	20.29	21.06	21.82	21.08	20.21
2	20.17	20.09	20.00	20.03	20.59	20.18	21.31	20.25	21.42	21.99	20.95	19.97
3	20.16	20.14	19.79	20.13	20.52	19.69	21.35	20.31	21.59	22.00	20.88	19.72
4	20.02	20.13	19.33	20.21	20.63	19.16	21.21	20.57	21.39	21.93	20.63	19.58
5	19.96	20.10	19.19	20.28	20.63	19.09	20.89	20.80	21.18	21.79	20.57	19.41
6	19.74	20.17	19.32	20.15	20.56	19.13	20.86	20.73	21.09	21.56	20.46	19.56
7	19.74	20.18	19.26	20.10	20.55	19.28	20.81	20.60	21.12	21.41	20.40	19.85
8	19.78	20.15	19.46	20.15	20.69	19.65	20.55	20.50	21.04	21.26	20.54	20.03
9	19.62	20.00	19.73	20.19	20.77	19.72	20.43	20.30	21.03	21.09	20.64	20.09
10	19.60	19.73	20.03	20.33	20.87	19.92	20.59	20.41	20.94	21.02	20.52	20.09
11	19.67	19.53	20.08	20.33	20.85	20.02	20.57	20.59	21.03	20.99	20.60	20.24
12	19.79	19.49	20.07	20.27	20.82	20.13	20.46	20.54	21.02	20.94	20.62	20.36
13	19.86	19.36	19.80	20.12	20.83	20.08	20.37	20.29	21.08	20.87	20.60	20.41
14	19.69	19.66	19.73	20.27	20.79	20.24	20.27	20.05	21.18	20.83	20.71	20.31
15	19.47	19.84	19.45	20.29	20.64	20.39	20.10	20.10	21.03	20.95	20.73	20.27
16	19.27	19.92	19.40	20.23	20.95	20.50	20.07	20.39	21.03	20.95	20.77	19.98
17	19.27	19.85	19.39	20.16	21.16	20.53	20.17	20.53	21.06	21.06	20.69	19.70
18	19.14	20.09	19.54	20.30	20.99	20.49	20.36	20.58	21.32	21.41	20.43	19.39
19	18.95	20.27	19.62	20.19	20.95	20.43	20.36	20.60	21.60	21.58	20.30	19.67
20	18.85	20.28	19.55	19.72	20.86	20.43	20.49	20.72	21.67	21.74	20.04	20.01
21	18.80	20.15	19.71	19.40	20.51	20.47	20.53	20.95	21.76	21.81	19.78	20.35
22	18.86	19.82	19.83	19.59	20.56	20.40	20.57	21.27	21.95	21.68	19.60	20.63
23	18.92	19.42	19.98	19.49	20.23	20.18	20.56	21.34	22.25	21.54	19.40	20.53
24	18.89	19.29	19.83	19.21	20.16	20.21	20.56	21.23	22.25	21.51	19.29	20.55
25	18.97	19.24	19.95	19.57	20.06	20.84	20.32	20.94	22.32	21.18	19.30	20.38
26	19.00	19.14	20.07	19.88	20.16	21.08	20.15	20.45	22.30	20.69	19.30	20.16
27	18.97	19.00	20.19	20.02	20.26	20.97	20.13	20.52	22.28	20.54	19.53	20.14
28	19.06	19.31	20.25	20.38	20.27	20.77	20.19	20.63	22.23	20.67	19.68	20.40
29	19.04	19.44	20.20	20.53	---	20.30	20.28	20.78	22.11	20.81	19.87	20.65
30	19.06	19.77	20.17	20.57	---	20.07	20.24	20.88	21.87	20.89	20.11	20.81
31	19.33	---	20.15	20.53	---	20.69	---	20.73	---	21.11	20.16	---
MAX	20.17	20.28	20.25	20.57	21.16	21.08	21.35	21.34	22.32	22.00	21.08	20.81

WTR YR 1979 MEAN 20.34 HIGH 18.80 LOW 22.32

411545082072400. Local number, LN-1.
LOCATION.--Lat 41°15'45", long 82°07'24", Hydrologic Unit 04110001, 1.7 mi (2.7 km) north of LaGrange.
Owner: LaGrange Water Department.
AQUIFER.--Sandstone of Mississippian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 47 ft (14.3 m), cased.
DATUM.--Altitude of land-surface datum is 795 ft (242 m), from topographic map. Measuring point: Floor of instrument shelter 1.50 ft (0.457 m) above land-surface datum.
PERIOD OF RECORD.--September 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.60 ft (10.851 m) Oct. 25, 1952; minimum daily low, 0.13 ft (0.040 m) Jan. 8, 1975.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 5.42 ft (1.652 m) Nov. 20; minimum daily low, 0.79 ft (0.241 m) Apr. 14.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.74	5.05	4.49	2.90	2.98	2.99	1.34	1.99	1.49	1.91	2.74	2.35
2	4.78	4.98	4.61	2.62	3.07	3.12	1.17	1.98	1.51	2.06	2.60	2.17
3	4.66	4.98	4.48	2.68	2.97	2.95	1.32	1.85	1.38	2.04	2.60	2.18
4	4.73	4.88	3.86	2.65	2.98	2.53	1.19	1.95	1.28	1.93	2.57	2.19
5	4.71	4.86	3.68	2.65	3.06	2.56	.94	2.01	1.33	2.04	2.54	2.13
6	4.66	4.95	3.76	2.38	3.03	2.38	.95	1.92	1.44	2.08	2.53	1.93
7	4.82	4.99	3.68	2.24	2.80	2.12	.95	1.95	1.54	2.07	2.51	2.03
8	4.97	5.05	3.30	2.38	3.08	2.01	.95	2.02	1.72	2.00	2.56	2.09
9	5.03	4.99	3.00	2.48	3.21	2.02	.92	2.10	1.74	1.87	2.62	2.09
10	5.01	5.11	3.07	2.67	3.31	1.86	1.15	2.12	1.64	1.84	2.44	1.90
11	4.88	5.19	3.06	2.75	3.34	1.80	1.16	2.10	1.83	1.95	2.50	1.93
12	4.83	5.24	2.92	2.59	3.21	1.97	.92	2.18	2.02	2.00	2.67	1.91
13	4.93	5.20	2.75	2.40	3.29	1.87	.51	2.23	2.11	1.92	2.73	1.81
14	4.88	5.23	2.84	2.62	3.22	1.88	.79	2.25	2.14	2.03	2.83	1.75
15	4.82	5.33	2.72	2.81	2.98	2.12	.38	2.45	2.14	2.20	2.99	1.79
16	4.88	5.37	2.76	2.72	3.62	2.11	1.03	2.59	2.09	2.37	3.07	1.74
17	4.97	5.16	2.98	2.53	3.78	2.14	1.16	2.62	2.06	2.41	3.00	1.60
18	4.82	5.28	2.98	2.78	3.65	2.00	1.24	2.48	2.31	2.46	2.81	1.35
19	4.58	5.41	2.94	2.76	3.47	1.86	1.28	2.32	2.40	2.51	2.94	1.40
20	4.59	5.42	2.69	2.25	3.43	1.77	1.25	2.30	2.38	2.55	2.96	1.39
21	4.60	5.32	2.86	2.10	3.29	1.79	1.31	2.53	2.22	2.54	2.99	1.31
22	4.63	5.23	2.98	2.65	3.42	1.77	1.48	2.58	1.99	2.58	2.98	1.55
23	4.87	5.01	3.11	2.64	3.13	1.51	1.53	2.45	2.10	2.62	2.93	1.59
24	4.86	4.98	2.93	2.30	3.23	1.31	1.47	2.37	2.20	2.64	2.95	1.72
25	4.56	5.03	3.02	2.61	3.17	1.54	1.35	2.26	2.26	2.55	3.05	1.75
26	4.72	5.03	3.23	2.69	2.86	1.79	1.25	2.04	2.28	2.61	3.04	1.85
27	4.83	4.77	3.45	2.65	3.00	1.94	1.44	1.84	2.19	2.64	2.85	1.87
28	5.05	4.91	3.56	2.59	3.03	1.89	1.58	1.75	2.16	2.66	2.71	1.79
29	5.14	4.87	3.50	2.80	---	1.51	1.77	1.67	2.05	2.74	2.48	1.94
30	5.13	4.55	3.36	2.85	---	1.43	1.37	1.62	1.88	2.75	2.46	1.94
31	5.04	---	3.30	2.74	---	1.36	---	1.58	---	2.69	2.43	---
MAX	5.14	5.42	4.61	2.90	3.78	3.12	1.37	2.62	2.40	2.75	3.07	2.35

WTR YR 1979 MEAN 2.76 HIGH .79 LOW 5.42

LUCAS COUNTY

413704083362200. Local number, LU-1.
LOCATION.--Lat 41°37'04", long 83°36'22", Hydrologic Unit 04100001, at Toledo State Hospital.
Owner: State of Ohio.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.3 m), depth drilled 525 ft (160.0 m), present depth 523.0 ft (159.4 m), cased to 93 ft (28.3 m). depth drilled 525 ft (160.0 m), cased.
DATUM.--Altitude of land-surface datum is 624 ft (190 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.
REMARKS.--Prior to Aug. 23, 1978, measuring point was 3.10 ft (0.945 m) above land-surface datum.
PERIOD OF RECORD.--March 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 117.25 ft (35.738 m) Sept. 18, 1957; minimum daily low, 72.22 ft (22.013 m) Apr. 26, 1979.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 77.68 ft (23.677 m) Oct 1; minimum daily low, 72.22 ft (22.013 m) Apr. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77.68	76.22	74.99	74.35	74.10	73.62	73.15	72.77	72.73	73.97	75.52	75.45
2	77.66	75.07	75.18	74.59	74.16	73.76	73.02	72.69	72.76	74.12	75.59	75.37
3	77.37	75.99	74.88	74.75	74.00	73.55	73.20	72.50	72.61	74.12	75.69	75.52
4	77.27	75.84	74.56	74.95	74.04	73.28	73.08	72.53	72.43	74.11	75.78	75.62
5	77.19	75.69	74.57	74.97	74.11	73.41	72.94	72.60	72.55	74.38	75.81	75.59
6	77.07	75.80	75.13	74.66	74.03	73.32	73.21	72.35	72.71	74.45	75.90	75.48
7	77.18	75.78	75.08	74.46	73.74	73.17	73.26	72.34	72.83	74.43	75.86	75.74
8	77.29	75.77	74.59	74.49	74.05	73.31	72.92	72.34	73.05	74.38	75.93	75.89
9	77.25	75.54	74.89	74.55	74.17	73.33	72.76	72.44	73.06	74.27	75.96	75.94
10	77.14	75.71	75.18	74.75	74.22	73.31	72.99	72.53	72.94	74.21	75.63	75.78
11	76.92	75.83	75.15	74.75	74.22	73.30	73.06	72.80	73.22	74.28	75.75	75.89
12	76.68	75.88	75.07	74.53	74.11	73.48	72.73	73.03	73.41	74.33	75.78	75.77
13	76.76	75.75	74.93	74.20	74.13	73.29	72.58	73.11	73.52	74.26	75.73	75.53
14	76.74	75.74	74.95	74.41	73.99	73.46	72.57	73.19	73.45	74.39	75.77	75.62
15	76.70	75.74	74.58	74.59	73.50	73.72	72.70	73.32	73.42	74.63	75.84	75.75
16	76.89	75.80	74.70	74.53	74.42	73.72	72.91	73.44	73.44	74.89	75.97	75.85
17	75.96	75.49	74.92	74.24	74.57	73.68	72.92	73.43	73.54	74.96	75.64	75.82
18	75.77	75.59	74.95	74.57	74.33	73.50	73.00	73.18	73.90	75.00	75.27	75.52
19	76.49	75.81	74.71	74.49	74.10	73.38	72.99	72.90	73.97	75.02	75.38	75.78
20	76.42	75.85	74.31	73.75	74.00	73.31	72.88	72.84	73.89	75.09	75.42	75.59
21	76.30	75.75	74.36	73.45	73.90	73.32	72.78	72.95	73.78	75.07	75.49	75.39
22	75.25	75.60	74.50	74.02	73.96	73.24	72.93	72.99	73.95	75.15	75.43	75.50
23	75.48	75.13	74.55	73.95	73.58	72.79	72.92	72.79	74.25	75.21	75.24	75.54
24	75.44	75.24	73.96	73.37	73.85	72.45	72.76	72.65	74.49	75.25	75.34	75.43
25	75.94	75.28	74.43	73.79	73.50	72.81	72.52	72.55	74.64	75.14	75.57	75.25
26	75.03	75.23	74.59	73.44	73.52	73.20	72.22	72.45	74.65	75.25	75.60	75.23
27	76.05	74.89	74.93	73.77	73.60	73.42	72.32	72.51	74.46	75.28	75.53	75.07
28	76.32	75.24	75.02	73.65	73.53	73.38	72.54	72.61	74.42	75.32	75.45	74.79
29	75.43	75.12	74.92	73.88	---	73.06	72.50	72.63	74.19	75.46	75.36	74.73
30	75.36	75.09	74.57	73.94	---	72.97	72.55	72.71	73.95	75.47	75.49	74.60
31	76.19	---	74.63	73.82	---	73.16	---	72.69	---	75.48	75.54	---
MAX	77.68	76.22	75.18	74.97	74.57	73.76	73.25	73.44	74.65	75.48	75.96	75.94

WTR YR 1979 MEAN 74.48 HIGH 72.22 LOW 77.68

MEDINA COUNTY

410142082005900. Local number, MD-1.

LOCATION.--Lat 41°01'42", long 82°00'59", Hydrologic Unit 04110001. Waterworks plant at Lodi.
 Owner: Lodi Water Dept.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 65 ft (19.9 m), cased.

DATUM.--Altitude of land-surface datum is 910 ft (277 m), from topographic map. Measuring point: Floor of instrument shelter 1.90 ft (0.579 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 31.50 ft (9.601 m) July 16, 1971; minimum daily low, 7.60 ft (2.316 m) July 6, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 28.40 ft (8.556 m) Dec. 14; minimum daily low, 20.60 ft (6.279 m) Apr. 15, May 6.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	26.45	25.70	23.60	23.30	23.50	22.30	23.30	22.40	24.20	
2		---	26.35	25.80	24.00	23.70	23.90	22.30	23.30	23.20	23.90	
3		---	26.45	25.50	23.10	23.90	21.40	22.70	23.40	23.10	23.90	
4		---	26.40	26.00	23.00	23.50	22.50	22.60	23.60	23.40	23.10	
5		---	26.30	26.00	24.20	23.20	22.00	23.40	23.00	23.10	22.40	
6		---	26.32	26.40	24.00	22.70	22.30	20.60	23.20	23.50	23.60	
7		---	26.60	25.50	23.70	23.40	23.40	22.30	24.70	23.40	24.10	
8		---	26.80	25.40	23.70	22.90	22.00	23.10	22.90	22.60	24.10	
9		---	27.00	25.60	24.20	23.20	22.00	22.60	24.00	23.10	24.10	
10		---	27.00	25.80	23.80	23.10	21.50	23.50	23.40	23.30	24.00	
11		---	26.90	26.20	23.10	22.80	22.00	23.90	23.30	23.50	23.60	
12		---	26.90	26.00	24.20	22.50	22.00	23.40	23.00	24.00	23.20	
13		---	26.80	26.20	23.10	22.50	21.90	22.70	24.00	24.20	23.60	
14		---	27.00	26.10	24.60	---	21.30	22.80	24.10	23.40	23.70	
15		---	27.05	25.80	24.00	---	20.50	23.50	23.80	23.70	23.80	
16		---	27.10	26.30	24.00	---	21.30	23.90	24.90	23.70	23.10	
17		---	27.10	---	23.60	---	21.00	24.00	23.80	23.80	---	
18		---	27.10	26.60	23.00	---	22.10	23.80	23.60	24.00	---	
19		---	27.10	26.30	24.20	---	21.90	24.10	22.90	24.20	---	
20		---	27.00	---	24.50	---	22.10	23.50	23.60	24.20	---	
21		---	---	---	24.20	23.00	22.00	23.60	23.80	23.30	---	
22		---	---	---	24.50	22.60	21.90	23.80	24.10	22.30	---	
23		---	26.80	---	24.00	22.70	22.20	24.40	23.60	24.40	---	
24		26.45	28.40	---	23.20	22.30	22.30	24.50	22.70	25.00	---	
25		26.75	26.20	---	23.00	21.80	21.90	24.10	22.70	25.60	---	
26		26.75	26.10	24.20	22.50	22.60	22.40	23.90	24.00	25.80	---	
27		26.90	26.70	23.40	23.50	22.10	22.10	22.60	23.30	25.50	---	
28		26.45	26.80	21.70	23.50	21.80	21.90	22.50	23.80	25.20	---	
29		26.65	27.10	22.70	---	21.00	21.10	22.60	23.60	23.20	---	
30		26.50	27.00	24.00	---	21.70	21.50	23.10	23.50	24.40	---	
31		---	26.90	23.70	---	21.60	---	22.80	---	24.70	---	
MAX		26.90	28.40	26.60	24.60	23.90	23.90	24.50	24.90	25.80	24.20	

WTR YR 1979 MEAN 23.93 HIGH 20.60 LOW 28.40

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

413644083201400. Local number, O-1.

LOCATION.--Lat 41°36'44", long 83°20'14", Hydrologic Unit 04100010, Williston Rd at Crane Creek near Williston.
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 360 ft (109.7 m).

DATUM.--Altitude of land-surface datum is 588 ft (179 m), from topographic map. Measuring point: Floor of instrument shelter 5.00 ft (1.524 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.52 ft (5.644 m) Mar. 19, 1977; minimum daily low, 11.55 ft (3.520 m) Jan. 20, 1973.

EXTREMSE FOR CURRENT YEAR.--Maximum recorded daily low, 16.85 ft (5.136 m) Mar. 27; minimum recorded daily low, 14.92 ft (4.548 m) Oct. 5.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.11	15.75				---	16.55	---	---	---	---	16.05
2	15.13	15.70				---	16.50	---	---	---	---	15.98
3	14.97	15.70				---	16.55	---	---	---	---	16.11
4	15.10	15.55				---	16.50	---	---	---	---	16.21
5	14.92	15.65				---	16.30	---	---	---	---	16.13
6	15.15	15.70				---	16.55	---	---	---	---	16.05
7	---	15.70				---	16.55	15.60	---	---	---	16.28
8	---	15.60				---	16.35	15.80	---	---	15.98	16.37
9	---	15.80				---	16.30	15.75	---	---	15.90	16.35
10	---	15.85				---	16.45	15.70	---	---	15.71	16.20
11	---	15.95				---	16.50	15.70	---	---	15.86	16.28
12	---	15.90				---	16.15	15.75	---	15.55	15.90	16.24
13	---	15.75				---	16.05	15.74	---	---	15.89	16.10
14	---	15.95				---	15.90	---	15.60	---	15.99	16.30
15	---	15.95				---	16.05	---	15.70	---	16.07	16.42
16	---	15.80				---	16.15	---	---	---	16.15	16.49
17	---	15.90				16.70	16.20	---	---	---	15.99	16.41
18	---	16.05				16.55	---	---	---	---	15.79	16.22
19	---	16.10				16.50	---	---	---	---	15.94	16.44
20	---	16.00				16.45	---	---	---	---	15.98	16.35
21	15.40	15.90				16.55	---	---	---	---	16.00	16.29
22	15.45	---				16.45	---	---	---	---	15.94	16.51
23	15.65	---				16.10	---	---	---	---	15.86	16.56
24	15.65	---				16.25	---	---	---	---	15.95	16.51
25	15.25	---				16.55	---	---	---	---	16.10	16.44
26	15.55	---				16.75	---	---	---	---	16.11	16.49
27	15.60	---				16.85	---	---	---	---	15.96	16.46
28	15.85	---				16.75	---	---	---	---	15.92	16.33
29	15.90	---				16.45	---	---	---	---	15.94	16.43
30	15.85	---				16.40	---	---	---	---	16.08	16.44
31	15.75	---				16.55	---	---	---	---	16.17	---
MAX	15.90	16.10				16.85	16.55	15.80	15.70	15.55	16.17	16.55

WTR YR 1979 MEAN 16.04 HIGH 14.92 LOW 16.85

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

PORTAGE COUNTY

410920081192000. Local number, PO-6.

LOCATION.--Lat 41°09'20", long 81°19'20", Hydrologic Unit 04110002, State Rt 59, east of Kent.
Owner: Brown Derby Restaurant.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 72 ft (21.9 m), cased.

DATUM.--Altitude of land-surface datum is 1040 ft (317 m), from topographic Map. Measuring point: Top of platform 4.50 ft (1.372 m) below land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.37 ft (7.733 m) Feb. 22, 1977; minimum daily low, 16.94 ft (5.163 m) May 10, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 23.08 ft (7.035 m) Dec. 6, 10; minimum recorded daily low, 16.94 ft (5.163 m) May 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.51	---	22.99	22.35	21.09	21.13	---	17.16	---		19.00	19.88
2	21.54	22.42	23.01	22.32	21.09	21.13	---	17.12	---		19.06	19.87
3	21.58	22.50	22.99	22.35	21.07	21.07	---	17.06	---		19.09	19.88
4	21.61	22.52	23.04	22.25	21.03	20.97	---	17.04	---		19.12	19.89
5	21.65	22.55	23.05	22.22	21.02	20.94	---	17.01	---		19.14	19.88
6	21.71	22.56	23.08	22.16	21.01	20.86	---	16.97	---		19.17	19.89
7	21.74	22.58	23.07	22.11	20.97	20.78	---	16.95	---		19.19	19.92
8	21.77	22.61	23.07	22.05	20.97	20.73	---	16.95	---		19.23	---
9	21.79	22.63	23.07	22.02	20.97	20.70	---	16.95	---		19.26	---
10	21.84	22.64	23.08	21.97	20.97	20.64	---	16.94	---		19.26	---
11	---	22.67	23.06	21.95	20.97	20.59	---	---	---		19.29	---
12	---	22.70	23.03	21.88	20.97	20.58	---	---	---		19.32	---
13	---	22.74	22.97	21.85	20.97	20.50	---	---	---		---	---
14	---	22.74	22.97	21.78	20.97	20.45	---	---	---		---	---
15	---	22.72	22.90	21.78	21.00	20.43	---	---	---		---	---
16	---	22.75	22.89	21.75	21.05	20.39	---	---	---		---	---
17	---	22.76	22.87	21.70	21.08	20.33	---	---	---		---	---
18	---	22.77	22.83	21.62	21.07	20.25	---	---	---		---	---
19	---	22.79	22.80	21.62	21.07	20.20	---	---	---		---	---
20	---	22.79	22.73	21.56	21.01	20.14	---	---	17.52		---	---
21	---	22.82	22.73	21.49	21.12	20.09	---	---	---		---	---
22	---	22.83	---	21.43	21.13	20.03	---	---	---		---	---
23	---	22.84	---	21.38	21.15	19.94	---	---	---		---	---
24	---	22.94	---	21.32	---	19.88	---	---	---		---	---
25	---	---	---	21.31	---	19.85	---	---	---		---	---
26	---	---	---	21.27	---	19.83	---	---	---		---	---
27	---	---	---	21.25	---	19.82	---	---	---		---	18.55
28	---	22.90	22.48	21.19	21.12	19.73	---	---	---		---	18.51
29	---	22.95	22.46	21.18	---	19.71	---	---	---		---	18.55
30	---	22.97	22.43	21.16	---	---	17.16	---	---		19.88	---
31	---	---	22.38	21.12	---	---	---	17.34	---			---
MAX	21.84	22.97	23.08	22.35	21.15	21.13	17.16	17.34	17.52		19.88	19.92

WTR YR 1979 MEAN 21.09 HIGH 16.94 LOW 23.08

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

PUTNAM COUNTY

405505084032900. Local number, PU-1.

LOCATION.--Lat 40°55'05", long 84°03'29", Hydrologic Unit 04100007, Center and Broadway Streets, Columbus Grove. Owner: Columbus Grove Water Department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 110 ft (33.5 m), cased.

DATUM.--Altitude of land-surface datum is 770 ft (235 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resource, Division of Water.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.30 ft (7.407 m) Aug. 24, 1962; minimum daily low, 9.50 ft (2.896 m) Jan. 5, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 16.57 ft (5.051 m) Oct. 31; minimum daily low, 10.02 ft (3.054 m) April 2.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET). WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.88	14.75	15.14	13.90	13.77	12.86	11.54	11.76	11.76	12.96	11.84	12.74
2	16.33	15.33	14.82	14.68	13.96	12.88	10.02	11.49	11.25	12.14	12.58	12.08
3	14.75	16.09	15.46	14.89	14.23	11.49	11.08	10.57	12.02	12.90	12.37	11.60
4	16.39	15.69	15.18	14.63	14.08	12.17	11.30	11.69	12.04	12.88	12.04	12.55
5	15.92	15.12	14.28	14.74	14.08	11.81	11.22	11.59	11.38	11.81	12.66	11.35
6	14.95	15.90	15.30	14.20	14.34	10.86	10.38	10.85	12.18	12.86	12.43	12.85
7	16.02	15.48	15.51	14.26	13.93	12.02	12.04	12.17	12.66	12.96	13.18	11.85
8	15.49	14.71	14.19	14.26	13.95	11.56	11.26	11.97	11.74	12.79	12.68	12.75
9	14.75	15.77	15.03	13.85	13.94	11.54	10.53	11.42	12.56	12.97	11.96	12.09
10	15.64	15.48	14.98	13.92	13.53	11.91	12.17	12.37	12.00	12.58	11.90	13.05
11	15.50	14.90	14.28	14.60	14.34	12.03	11.59	12.03	11.51	12.58	12.05	11.47
12	14.48	15.70	15.04	13.89	14.04	11.23	10.90	11.50	12.68	13.03	11.90	12.95
13	15.57	15.40	14.51	13.69	13.21	12.09	11.73	12.17	12.22	12.97	11.29	11.93
14	15.38	14.80	15.18	14.09	14.25	11.94	11.08	12.03	11.75	12.18	11.94	12.83
15	14.47	15.89	15.14	13.99	13.61	11.67	10.20	11.39	12.91	12.94	11.73	11.49
16	15.62	15.40	14.97	13.17	13.13	12.23	11.21	12.41	13.06	13.18	11.10	12.03
17	15.53	14.58	14.28	13.98	14.52	12.17	11.21	12.16	11.78	12.57	12.19	11.63
18	14.72	15.68	15.22	13.89	14.11	11.14	10.53	11.41	12.93	13.51	11.04	12.59
19	15.68	15.39	15.09	13.05	12.97	12.36	11.49	12.79	12.77	13.62	11.08	12.34
20	15.50	14.86	13.93	13.88	14.45	11.78	11.12	12.16	12.82	12.76	12.02	12.61
21	14.78	15.32	15.06	13.65	14.27	11.09	10.39	11.89	13.07	13.74	13.31	12.29
22	15.09	15.82	15.23	12.88	13.46	12.12	---	12.45	12.95	13.27	11.59	12.85
23	15.43	14.62	14.28	13.88	14.12	11.73	---	12.51	13.71	12.78	12.09	11.37
24	14.68	15.79	14.37	13.68	13.58	10.92	---	11.41	12.97	13.63	11.90	13.10
25	15.68	15.51	14.80	12.92	12.42	11.53	---	12.14	13.27	13.42	12.85	11.55
26	15.28	14.60	14.57	13.98	13.31	11.73	11.26	11.86	13.41	12.49	11.38	13.05
27	14.70	15.48	15.38	13.88	12.74	11.85	10.57	10.76	13.81	13.58	12.55	11.85
28	15.94	15.69	15.24	14.36	12.00	12.32	11.78	11.55	13.61	12.85	11.67	12.23
29	15.36	14.83	14.34	14.95	---	11.77	11.17	11.52	13.45	12.11	12.19	11.97
30	14.85	14.61	15.55	14.20	---	10.96	10.78	10.90	13.16	13.22	11.16	12.43
31	16.57	---	14.87	13.80	---	12.00	---	12.02	---	12.70	12.58	---
MAX	16.57	16.09	15.55	14.95	14.52	12.88	12.17	12.78	13.81	13.74	13.31	13.10

WTR YR 1979 MEAN 13.17 HIGH 10.02 LOW 16.57

RICHLAND COUNTY

405753082360800. Local number, R-3.
LOCATION.--Lat 40°57'53", long 82°36'08", Hydrologic Unit 04100012, Voisard plant in Shiloh.
Owner: Voisard Corp.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 150 ft (45.7 m), cased.
DATUM.--Altitude of land-surface datum is 1080 ft (329 m), from topographic map. Measuring point: Floor of instrument shelter 3.17 ft (0.966 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--April 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 34.88 ft (10,631 m) Dec. 28, 1965; minimum daily low, 23.68 ft (7.218 m) June 15, 23, 1947.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 33.70 ft (10.296 m) Feb. 18; minimum daily low, 30.40 ft (9.266 m) July 10, 14.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.65	---	32.89	32.93	33.33	33.08	32.39	31.21	31.05	30.52	31.08	31.45
2	32.83	---	33.18	32.95	33.33	33.24	32.15	31.23	31.18	30.68	31.00	31.35
3	32.75	---	33.11	32.93	33.05	32.33	32.48	31.00	31.23	30.76	31.12	31.47
4	32.55	---	32.68	33.35	33.19	32.90	32.42	30.99	31.08	30.70	31.12	31.53
5	32.75	---	32.81	33.46	33.30	33.15	32.25	30.99	30.92	30.89	31.09	31.45
6	32.51	---	33.02	33.38	33.12	32.94	32.51	30.89	30.90	30.91	31.09	31.35
7	32.70	---	33.26	33.32	32.90	32.41	32.47	30.84	31.00	30.85	31.12	31.54
8	32.72	---	33.07	33.29	33.27	32.94	32.45	30.85	31.14	30.76	31.25	31.68
9	32.84	---	32.99	33.08	33.31	32.85	32.18	30.89	31.05	30.55	31.27	31.65
10	33.00	---	33.24	---	33.26	32.83	32.36	30.96	31.36	30.40	31.15	31.61
11	32.90	---	33.28	33.18	33.42	32.74	32.34	30.86	31.34	30.50	31.07	31.79
12	32.65	---	33.18	33.38	33.30	33.00	32.23	30.97	31.00	30.46	31.17	31.71
13	32.51	---	33.01	33.35	33.29	32.85	31.98	30.85	31.08	30.41	31.25	31.51
14	32.85	---	33.14	33.15	33.31	32.70	31.93	30.97	31.17	30.40	31.20	31.57
15	32.90	---	33.12	32.53	32.97	33.05	31.99	31.12	31.18	30.63	31.50	31.74
16	32.90	---	32.94	33.23	33.60	33.03	31.96	31.32	31.13	30.82	31.49	31.94
17	33.10	---	32.80	33.34	33.67	32.92	31.99	31.25	---	30.81	31.36	31.94
18	33.25	---	33.19	33.41	33.78	32.72	31.95	31.25	---	30.94	31.20	31.68
19	33.25	---	32.93	---	33.37	32.63	31.95	31.08	31.08	30.90	31.18	31.74
20	33.00	---	32.63	---	33.48	32.51	31.90	30.80	31.00	31.00	31.24	31.65
21	---	---	32.87	---	33.28	32.63	31.57	30.90	30.89	30.90	31.22	31.49
22	---	33.03	32.98	---	33.39	32.35	31.72	31.18	30.82	30.93	31.20	31.70
23	---	32.67	33.05	32.83	33.19	32.13	31.56	31.31	30.90	30.91	31.16	31.77
24	---	32.98	32.73	32.43	33.37	31.95	31.38	31.20	30.95	31.05	31.16	31.75
25	---	33.14	32.87	32.92	32.98	32.14	31.11	31.05	31.04	30.78	31.40	31.73
26	---	32.85	33.19	33.01	32.94	32.59	30.97	30.91	31.01	30.85	31.40	31.80
27	---	32.75	33.35	32.70	33.12	32.81	30.99	30.90	30.95	30.95	31.26	31.75
28	---	33.10	33.34	32.84	32.97	32.52	31.14	30.92	30.86	30.82	31.26	31.55
29	---	32.85	33.35	33.07	---	32.50	31.14	31.00	30.75	30.77	31.28	31.54
30	---	33.02	33.26	33.12	---	32.34	31.14	31.05	30.45	30.99	31.47	31.52
31	---	---	33.24	33.10	---	32.50	---	31.00	---	30.99	31.52	---
MAX	33.25	33.14	33.35	33.46	33.78	33.24	32.51	31.32	31.36	31.05	31.52	31.94

WTR YR 1979 MEAN 32.03 HIGH 30.40 LOW 33.78

SANDUSKY COUNTY

411914083045300. Local number, S-3.

LOCATION.--Lat 41°19'14", long 83°04'53", Hydrologic Unit 04100011, 2.6 mi (4.2 km) southeast of Fremont Post Office.
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.30 m), depth 121 ft (36.9 m), cased to 93 ft (28.3 m).

DATUM.--Altitude of land-surface datum is 627 ft (191 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--December 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.18 ft (7.370 m) Aug. 2, 1975; minimum daily low, 14.02 ft (4.273 m) Mar. 24, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 23.56 ft (7.181 m) July 24; minimum daily low, 15.23 ft (4.642m) Apr. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.08	17.19	15.71	16.70	15.41	16.36	15.99	15.58	15.91	19.21	21.34	18.07
2	19.51	17.13	15.73	16.79	15.44	16.43	15.96	15.53	16.01	18.84	21.62	17.94
3	19.07	17.07	15.71	16.88	15.32	16.30	16.00	15.39	15.95	18.61	20.42	17.98
4	18.71	16.97	15.37	16.95	15.36	16.15	15.98	15.44	15.94	18.27	19.77	18.03
5	18.60	16.92	15.44	16.94	15.39	16.27	15.72	15.50	15.94	18.24	19.44	17.94
6	18.28	17.00	15.70	15.71	15.33	16.17	15.89	15.46	16.01	18.17	19.16	17.82
7	18.26	17.02	15.70	16.58	16.16	16.08	15.92	15.52	16.09	18.07	18.93	17.90
8	18.29	17.03	15.55	16.61	15.33	16.15	15.73	16.50	16.17	18.58	18.79	17.99
9	18.26	16.95	15.54	15.52	15.40	16.16	15.50	17.64	17.72	19.09	18.65	17.95
10	18.13	17.03	15.81	16.71	15.46	16.14	15.76	16.91	19.08	19.18	18.38	17.87
11	17.93	17.12	15.85	15.69	15.44	16.14	15.77	16.37	19.64	19.65	18.34	17.87
12	17.73	17.14	15.94	16.54	15.42	16.25	15.52	16.22	18.55	18.80	18.27	17.83
13	17.75	17.12	15.91	15.36	16.43	16.13	15.51	16.14	17.83	18.32	18.23	17.73
14	17.68	17.12	15.92	15.50	15.38	16.15	15.35	16.07	18.53	18.06	18.53	17.59
15	17.55	17.15	15.83	16.65	15.17	16.32	15.48	16.03	20.05	17.96	18.76	17.72
16	17.69	17.11	15.84	15.58	15.56	16.31	15.57	16.15	20.91	17.97	18.88	17.75
17	17.72	16.98	15.98	15.49	16.59	16.30	15.50	16.13	21.17	17.92	18.90	17.71
18	17.62	16.97	15.97	15.63	15.57	16.18	15.52	16.04	19.91	17.85	18.76	17.52
19	17.43	17.05	15.93	15.61	15.50	16.14	15.51	15.95	19.17	19.47	18.87	17.62
20	17.33	17.13	15.72	15.23	15.42	16.07	15.51	16.04	19.20	21.15	18.95	17.52
21	17.28	17.06	15.77	16.11	15.34	16.09	15.50	16.21	18.90	22.18	18.99	17.39
22	17.26	16.99	15.83	15.49	15.41	16.04	15.55	16.26	19.85	22.88	18.98	17.51
23	17.36	16.92	15.94	16.41	15.24	15.78	15.52	16.15	20.32	23.43	18.98	17.77
24	17.35	16.83	15.80	16.09	15.45	15.71	15.54	16.05	19.27	23.56	18.95	19.71
25	17.09	16.88	15.90	15.35	15.40	15.91	15.37	15.93	18.74	21.94	18.82	21.14
26	17.08	16.83	17.05	16.35	15.34	16.13	15.23	15.77	19.63	20.72	18.70	21.61
27	17.11	16.69	17.17	16.32	15.39	16.25	15.32	15.79	20.97	20.17	18.44	20.28
28	17.23	16.81	17.17	15.28	15.36	16.20	15.41	15.89	21.46	19.71	18.29	19.46
29	17.30	16.80	17.11	15.39	---	15.99	15.51	15.91	21.63	19.42	18.15	19.25
30	17.26	16.69	15.95	15.40	---	15.92	15.48	15.94	19.97	19.22	18.18	18.98
31	17.20	---	15.90	15.32	---	16.01	---	15.90	---	20.11	18.21	---
MAX	20.08	17.19	17.17	16.95	16.59	16.43	16.00	17.64	21.63	23.56	21.62	21.61

WTR YR 1979 MEAN 17.33 HIGH 15.23 LOW 23.56

SANDUSKY COUNTY--Continued

412703083213600. Local number, S-2.

LOCATION.--Lat 41°27'03", long 83°21'36", Hydrologic Unit 04100010, at water works in Woodville.
Owner: Woodville Water department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m) depth 198 ft (60.4 m) cased.

DATUM.--Altitude of land-surface datum is 635 ft (194 m) from topographic map. Measuring point: Top of casing at land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded daily low, 31.42 ft (9.577 m) Oct-Nov, 1978; minimum daily low, 18.60 ft (5.669 m) May 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 31.42 ft (9.577 m) Oct-Nov; minimum daily low, 20.83 ft (6.349 m) Apr. 16.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.42	30.49	29.77	28.85	28.00	28.40	24.05	24.19	24.91	26.05	23.80	23.11
2	29.51	31.42	30.38	28.77	31.41	28.14	23.36	24.14	25.04	25.50	24.15	23.31
3	29.64	29.81	29.77	31.36	31.41	30.66	24.41	25.14	25.11	26.54	23.63	23.24
4	29.72	29.76	29.80	31.39	31.41	28.12	23.59	24.38	25.24	25.61	23.78	23.75
5	31.42	29.83	29.51	28.13	31.41	27.17	24.30	24.43	25.24	25.92	23.70	23.31
6	29.65	29.84	29.62	27.44	31.41	26.05	23.30	24.72	25.10	25.87	24.30	23.51
7	29.74	31.42	29.28	28.00	29.76	25.45	23.70	25.15	25.28	25.89	24.03	23.05
8	29.59	31.42	29.18	27.91	31.41	25.34	23.49	25.56	25.08	25.77	23.90	23.15
9	29.62	31.42	29.11	27.70	31.41	25.31	23.51	26.03	25.32	25.72	23.85	23.17
10	29.46	31.42	29.80	27.80	31.41	25.18	24.72	25.34	25.35	25.25	23.71	23.37
11	29.38	31.42	29.06	27.62	31.41	25.06	23.55	25.49	25.56	24.95	23.71	23.18
12	31.42	31.42	28.72	28.11	31.41	25.15	23.34	25.49	25.53	24.42	23.78	23.15
13	29.65	31.38	28.90	27.50	31.41	24.78	23.19	25.27	25.64	22.75	23.74	23.24
14	29.55	31.42	28.95	27.95	31.41	24.76	24.71	26.49	25.76	22.75	23.80	23.49
15	29.43	31.37	28.81	31.35	31.40	25.21	22.36	25.56	25.80	22.79	24.40	23.33
16	29.50	31.42	28.55	31.41	31.41	25.12	20.83	26.57	25.98	23.42	24.00	23.45
17	29.45	31.42	28.99	31.41	31.41	25.52	21.51	29.05	25.79	23.64	23.96	23.42
18	29.35	31.42	28.69	31.38	31.40	25.05	21.70	27.13	25.94	23.24	23.88	23.15
19	29.12	31.42	28.65	31.37	31.40	24.99	21.42	27.27	25.72	23.94	23.83	23.25
20	31.42	31.42	28.26	31.39	31.39	24.85	21.50	26.48	26.02	23.49	23.43	23.39
21	29.46	31.40	28.52	28.72	31.41	25.06	21.94	27.24	25.74	23.48	23.53	23.64
22	29.46	31.37	28.43	29.50	31.41	24.86	24.78	27.74	25.70	23.70	23.14	23.49
23	31.42	30.33	28.77	30.61	31.41	24.74	24.35	26.91	25.74	24.14	23.12	23.81
24	29.54	29.92	28.40	28.43	31.41	24.64	24.11	27.34	25.77	23.71	23.18	24.25
25	29.46	31.42	28.52	28.10	30.13	24.81	24.03	28.00	25.94	23.50	23.33	24.01
26	31.42	30.70	28.71	28.57	29.26	25.21	23.30	26.47	25.80	23.56	23.28	24.04
27	31.42	30.04	28.82	29.06	28.77	25.09	24.09	25.42	25.93	23.63	23.42	24.17
28	29.70	31.42	28.96	31.36	27.70	24.94	24.01	25.03	25.99	23.65	24.30	24.12
29	31.42	31.42	31.38	28.84	---	24.79	24.02	25.05	25.55	23.32	23.36	24.27
30	30.33	30.77	29.15	28.17	---	24.72	24.09	24.94	25.92	23.60	23.15	24.67
31	29.78	---	31.02	28.49	---	24.37	---	24.93	---	23.83	23.25	---
MAX	31.42	31.42	31.38	31.41	31.41	30.66	24.78	29.05	26.02	26.54	24.40	24.67

WTR YR 1979 MEAN 26.85 HIGH 20.83 LOW 31.42

SENECA COUNTY

410802083093900. Local number, SE-2.
LOCATION.--Lat 41°08'02", long 83°09'39", Hydrologic Unit 04100011, Tiffin State Hospital, Tiffin.
Owner: State of Ohio.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.3 m) depth 250 ft (76.2 m), cased.
DATUM.--Altitude of land-surface datum is 740 ft (226 m), from topographic map. Measuring point: Floor of instrument shelter 0.50 ft (0.152 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--July 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.76 ft (7.242 m) Nov. 22, 1965; minimum daily low, 14.81 ft (4.514 m) Mar. 29, 1978.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 21.70 ft (6.614 m) Oct. 29; minimum daily low, 15.22 ft (4.639 m) Apr. 16.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.50	21.51	21.05	20.11	19.96	---	18.18	18.04	18.03	19.10	18.55	17.92
2	21.54	21.48	21.14	---	20.08	---	18.33	18.03	18.16	19.41	18.42	17.60
3	21.41	21.43	21.13	---	19.97	---	18.34	17.90	18.11	19.49	18.53	17.52
4	21.42	21.35	20.39	---	19.98	---	17.90	18.08	18.04	19.39	18.56	17.57
5	21.45	21.28	20.38	---	---	---	17.52	18.26	18.09	19.55	18.74	17.50
6	21.37	21.43	20.73	---	20.07	---	17.51	18.19	18.22	19.62	18.76	17.44
7	21.50	21.45	20.76	---	---	---	17.55	18.29	18.39	19.57	18.74	17.75
8	21.60	21.49	20.45	---	---	---	17.10	18.44	18.57	19.45	18.86	18.07
9	21.68	21.33	20.28	---	---	---	16.82	18.60	18.58	19.29	18.88	18.15
10	21.68	21.50	20.39	---	---	---	16.92	18.66	18.50	18.89	18.66	---
11	21.50	21.60	20.46	---	---	---	16.98	18.60	18.60	18.95	18.68	---
12	21.46	21.60	20.28	---	---	---	16.55	18.73	18.81	18.96	18.69	18.25
13	21.56	21.55	20.07	---	---	---	16.43	18.80	18.96	18.82	18.78	18.25
14	21.55	21.53	20.24	---	19.87	---	15.98	18.84	18.96	18.42	19.00	18.10
15	21.55	21.59	20.06	19.25	---	---	15.25	18.97	19.00	18.44	19.15	18.21
16	---	21.54	20.15	19.60	---	18.50	15.22	19.20	18.99	18.53	19.27	18.25
17	---	21.38	20.38	19.53	---	18.35	15.39	19.20	18.99	18.56	19.17	18.15
18	---	21.45	20.37	19.68	---	18.32	15.57	19.05	19.28	18.57	18.92	17.99
19	---	21.51	20.23	19.68	---	18.32	15.79	18.90	19.43	18.59	18.40	18.27
20	---	21.52	20.03	19.09	---	18.48	15.97	18.97	19.37	18.65	18.27	18.26
21	21.24	21.39	20.22	18.87	---	18.43	16.24	19.16	19.28	18.65	18.00	18.24
22	21.28	21.22	20.31	19.60	---	18.24	16.59	19.36	19.12	18.72	17.92	18.57
23	21.49	21.11	20.46	19.65	---	17.98	16.73	19.23	19.16	18.79	17.84	18.59
24	21.49	21.08	20.32	19.33	---	18.45	16.78	19.19	19.29	18.82	17.89	18.59
25	21.15	21.13	20.39	19.55	---	18.84	16.70	19.03	19.44	18.42	18.10	18.71
26	21.35	21.11	20.58	19.64	---	19.15	16.76	18.45	19.44	18.34	18.15	18.82
27	21.41	20.95	20.70	19.65	---	19.14	17.04	17.91	19.45	18.34	18.07	18.82
28	21.61	21.21	20.79	19.45	---	18.64	17.44	17.80	19.40	18.30	18.06	18.71
29	21.70	21.23	20.75	19.75	---	18.53	17.56	17.82	19.41	18.33	17.89	18.87
30	21.65	21.03	20.54	19.83	---	18.35	17.73	17.95	19.21	18.42	17.98	18.91
31	21.56	---	20.50	19.76	---	18.35	---	17.96	---	18.53	18.04	---
MAX	21.70	21.60	21.14	20.11	20.08	19.15	18.34	19.36	19.45	19.62	19.27	18.91

WTR YR 1979 MEAN 19.21 HIGH 15.22 LOW 21.70

SUMMIT COUNTY

410330081282000. Local number, SU-6.

LOCATION.--Lat 41°03'30", long 81°28'20", Hydrologic Unit 04110002, Seiberling St, Akron.
Owner: Goodyear Tire and Rubber Co.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 in (0.6 m), depth 89 ft (27.1 m), cased.

DATUM.--Altitude of land-surface datum is 1000 ft (305 m) from topographic map. Measuring point: Floor of instrument shelter 2.63 ft (0.802 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 59.47 ft (18.126 m) Oct. 18, 1947; minimum daily low, 12.00 ft (3.658 m) April 3, 4, 1977, May 26, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 27.55 ft (8.397 m) Nov. 25; minimum daily low, 12.00 ft (3.658 m) May 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.60	---	27.20	15.85	13.65	12.50	12.50	12.45	12.30	19.10	---	26.55
2	24.62	26.05	23.85	15.55	13.65	12.50	12.50	12.45	12.30	---	---	26.61
3	24.70	26.15	22.35	15.45	13.65	12.45	12.25	12.45	12.25	---	---	26.55
4	24.72	26.25	21.60	15.20	13.65	12.40	12.25	12.45	12.23	---	---	26.77
5	24.80	26.25	21.00	15.10	13.60	12.30	12.25	12.45	12.35	---	---	26.91
6	24.86	26.30	20.70	15.05	13.60	12.30	12.30	12.40	12.35	---	---	27.05
7	25.32	26.40	20.40	14.95	13.55	12.35	12.30	12.40	12.40	---	---	27.11
8	24.91	26.40	20.10	14.90	13.55	12.45	12.30	12.45	12.40	---	---	27.27
9	25.00	26.50	19.85	14.80	13.55	12.50	12.25	12.50	12.40	---	---	27.29
10	25.16	26.60	19.15	14.65	13.55	12.55	12.30	12.50	12.65	---	---	27.02
11	25.21	27.20	18.95	14.55	13.55	12.50	12.30	12.50	12.65	19.50	---	27.25
12	25.20	26.65	18.65	14.40	13.55	12.60	12.30	12.55	12.40	19.65	---	27.37
13	25.41	26.70	18.35	14.35	13.55	12.55	12.25	12.50	12.45	19.75	---	27.47
14	25.00	26.80	18.15	14.30	13.50	12.65	12.25	12.55	12.45	19.80	---	27.05
15	25.00	26.85	18.00	14.25	13.50	---	12.15	12.60	12.45	---	---	16.39
16	25.13	26.85	17.85	14.20	13.50	---	12.20	12.65	15.70	19.90	24.53	17.59
17	25.19	26.90	17.70	14.20	13.50	---	12.25	12.65	16.60	20.05	24.58	18.59
18	25.21	27.45	17.45	14.10	13.50	---	12.25	12.65	17.15	20.15	24.72	19.45
19	25.26	27.00	17.30	14.05	13.50	---	12.25	12.60	17.50	20.15	24.86	20.05
20	25.75	27.00	17.20	13.95	13.30	---	12.30	12.55	17.75	20.25	25.05	20.53
21	25.31	27.05	17.05	13.80	13.20	---	12.40	12.65	17.95	20.35	25.21	20.93
22	25.40	27.10	16.95	13.80	13.15	---	12.40	12.65	18.15	20.35	25.34	21.19
23	25.49	27.10	16.80	13.75	13.05	---	12.40	12.60	18.35	20.45	25.46	21.44
24	25.58	27.15	16.65	13.70	12.70	---	12.40	12.60	18.45	20.50	25.59	21.72
25	25.67	27.55	16.40	13.65	12.65	---	12.40	12.35	18.60	20.60	25.71	21.98
26	25.70	27.20	16.25	13.80	12.50	---	12.35	12.00	18.75	20.65	25.78	23.31
27	26.10	27.25	16.15	13.75	12.55	---	12.40	12.05	18.90	20.75	25.92	---
28	25.75	27.22	16.25	13.65	12.55	---	12.45	12.10	18.95	20.80	26.05	---
29	25.80	27.20	16.25	13.65	---	12.70	12.45	12.15	18.95	20.85	25.13	---
30	26.00	27.20	16.15	13.65	---	12.65	12.40	12.25	---	21.05	26.28	---
31	---	---	16.05	13.65	---	12.60	---	12.25	---	21.30	26.44	---
MAX	26.10	27.55	27.20	15.85	13.65	12.70	12.50	12.65	18.95	21.30	26.44	27.47

WTR YR 1979 MEAN 18.16 HIGH 12.00 LOW 27.55

410846081271600. Local number, SU-7.
LOCATION.--Lat 41°08'46", long 81°27'16", Hydrologic Unit 04110002, Monroe Falls Road, Cuyahoga Falls.
Owner: Cuyahoga Falls Water Dept.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused water-table, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased.
DATUM.--Altitude of land-surface datum is 994 ft (303 m), from topographic map. Measuring point: Floor of instrument shelter 5.00 ft (1.524 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--August 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 44.19 ft (13.469 m) Sept. 7, 1971; minimum daily low, 1.40 ft (0.427 m) Sept. 17, 1979.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 33.74 ft (10.284 m) Dec. 3, 4; minimum daily low, 1.40 ft (0.427 m) Sept. 17.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.08	---	33.50	30.87		26.79	12.19	15.57	13.04	21.29	16.01	17.65
2	26.15	28.77	33.62	30.35		25.76	10.20	15.91	13.33	20.81	16.00	17.62
3	26.35	28.92	33.74	29.40		24.07	4.02	16.27	13.54	20.64	15.25	17.69
4	26.62	29.06	33.74	26.43		21.97	3.29	16.60	14.23	15.90	14.98	17.83
5	26.90	29.19	33.45	24.21		17.40	2.72	16.93	14.74	12.80	15.16	18.35
6	26.98	29.50	33.17	23.34		9.10	3.25	17.36	15.21	11.88	15.42	18.69
7	25.75	29.80	33.00	21.98		5.33	4.17	17.95	15.63	11.63	15.51	18.88
8	26.75	30.05	32.95	21.56		3.00	5.25	18.54	16.06	11.66	16.22	19.05
9	26.50	30.23	---	21.95		2.43	6.04	19.11	16.32	11.68	16.40	19.11
10	26.54	30.37	---	22.46		2.83	6.73	19.68	16.61	11.70	16.75	19.34
11	26.65	30.56	---	22.72		3.93	7.43	20.17	16.84	11.69	16.79	19.71
12	26.77	30.70	---	23.30		5.08	7.71	20.51	17.09	11.87	16.94	19.80
13	25.76	30.88	---	23.55		6.12	8.22	20.68	17.39	12.14	16.84	20.17
14	26.73	31.01	---	23.90		6.92	8.44	20.86	17.74	12.35	17.14	20.06
15	26.62	31.16	---	24.05		7.53	9.02	21.20	18.26	12.44	17.31	7.19
16	26.16	31.30	---	24.28		8.18	9.47	21.42	18.93	12.78	17.30	1.91
17	26.30	31.49	---	24.46		8.91	10.00	21.64	19.34	13.07	17.47	1.40
18	25.55	31.65	---	24.55		9.47	10.45	21.89	19.60	13.34	17.73	1.65
19	26.85	31.68	---	24.88		10.20	10.99	22.09	19.94	13.76	17.71	2.57
20	27.20	31.95	---	24.96		11.34	11.44	22.32	20.37	14.32	17.66	3.97
21	27.37	32.11	---	25.23		12.60	11.75	22.56	20.66	14.64	17.79	5.53
22	27.60	32.30	---	25.61		13.13	12.11	22.80	21.05	14.85	17.85	6.92
23	27.78	32.45	---	25.82		13.54	12.42	23.04	21.20	14.79	17.88	7.73
24	27.85	32.57	---	26.17		13.81	12.98	23.05	21.20	15.11	17.98	8.82
25	28.05	32.75	---	26.25		14.09	13.43	22.99	21.54	15.34	18.04	10.02
26	29.05	32.93	---	26.46		14.32	14.00	22.23	21.84	15.51	18.05	10.87
27	28.06	33.09	---	---		14.33	14.32	20.87	22.16	15.58	17.93	11.65
28	29.30	33.19	30.65	---		14.31	14.50	18.96	22.35	15.61	17.84	11.96
29	29.50	33.30	30.73	---		14.08	14.96	16.41	22.21	15.29	17.78	12.40
30	---	---	30.82	---		13.64	15.11	13.44	21.71	15.37	17.51	12.75
31	---	---	30.87	---		13.20	---	12.99	---	15.79	17.57	---
MAX	29.50	33.30	33.74	30.87		26.79	15.11	23.05	22.35	21.29	18.05	20.17

WTR YR 1979 MEAN 19.96 HIGH 1.40 LOW 33.74

VAN WERT COUNTY

405215084335400. Local number, VW-1.

LOCATION.--Lat 40°52'15", long 84°33'54", Hydrologic Unit 04100007, Ridge Road near Van Wert.
Owner: Marsh Foundation.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 340 ft (103.6 m), cased.

DATUM.--Altitude of land-surface datum is 790.37 ft (240.905 m). Measuring point: Floor of instrument shelter 6.15 ft (1.874 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 32.81 ft (10.000 m) Mar. 2, 1977; minimum daily low, 18.85 ft (5.745 m) Mar. 6, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 31.95 ft (9.738 m) Feb. 17; minimum daily low, 28.90 ft (8.809 m) Sept. 6.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.45	31.00	31.10	31.10	31.50	31.20	30.75	30.40	29.90	29.50	29.55	29.10
2	30.38	30.96	31.20	31.45	31.55	31.35	30.50	30.35	---	29.65	29.45	29.00
3	30.50	30.90	31.20	31.55	31.40	---	30.80	---	---	29.70	29.50	29.05
4	30.72	30.82	30.75	31.80	31.50	---	30.75	30.15	29.85	29.65	29.50	29.10
5	30.72	30.75	30.80	31.80	31.50	---	30.55	30.20	29.90	29.85	29.50	29.05
6	30.70	30.80	31.10	31.55	31.45	---	30.50	30.00	29.95	29.95	29.55	28.90
7	30.59	30.90	31.25	31.40	31.25	---	30.85	30.00	---	29.95	29.50	29.05
8	30.33	30.94	31.10	31.50	31.45	---	30.90	30.00	---	29.90	29.50	29.25
9	30.55	30.80	31.05	31.50	31.55	---	30.85	30.05	---	29.75	29.55	29.25
10	30.58	30.92	31.35	31.70	31.60	---	30.50	30.00	---	29.55	29.40	29.15
11	---	31.00	31.45	31.75	31.60	---	30.55	29.95	---	29.60	29.40	29.15
12	---	31.08	31.35	31.60	31.50	---	30.35	30.10	29.90	29.60	29.40	29.15
13	---	31.11	31.25	31.35	31.55	---	30.25	30.15	29.95	29.45	29.45	29.00
14	30.56	31.15	31.30	31.45	31.45	---	30.35	30.15	29.90	29.50	29.50	29.10
15	30.60	31.15	31.25	31.65	31.15	---	30.50	30.15	29.90	29.60	29.50	29.20
16	30.77	31.20	---	31.60	31.75	---	30.50	30.30	29.80	29.75	29.60	29.30
17	30.90	31.10	---	31.55	31.95	---	30.55	30.45	29.65	29.80	29.50	29.25
18	30.78	31.10	---	31.70	31.85	---	30.50	30.40	29.80	29.80	29.20	29.05
19	30.65	31.30	---	31.65	31.65	---	---	30.25	29.90	29.80	29.20	29.15
20	30.60	31.40	---	31.15	31.65	---	---	30.05	29.80	29.80	29.20	29.10
21	30.59	31.35	---	30.80	31.35	---	---	30.05	29.70	29.75	29.20	28.95
22	30.60	31.30	---	31.25	31.50	---	30.55	30.20	29.70	29.70	29.15	29.10
23	30.60	31.15	---	31.30	31.35	---	30.55	30.25	29.80	29.75	29.05	29.15
24	30.84	31.00	---	30.95	31.40	---	30.40	30.15	29.90	29.75	29.05	29.15
25	30.56	31.10	---	31.15	31.40	---	30.20	30.05	30.00	29.70	29.20	29.10
26	30.61	31.05	---	31.25	31.10	---	30.00	30.05	29.95	29.55	29.25	29.15
27	30.70	30.90	---	31.25	31.25	---	30.05	29.90	29.90	29.55	29.10	29.10
28	30.89	31.05	---	31.10	31.25	30.75	30.25	28.95	29.85	29.60	29.05	28.95
29	31.08	31.20	---	31.30	---	30.75	30.30	30.00	29.75	29.60	29.00	29.00
30	31.03	31.10	---	31.40	---	30.65	30.30	30.00	29.50	29.60	29.10	29.00
31	31.03	---	---	31.30	---	30.75	---	30.00	---	29.50	29.15	---
MAX	31.08	31.40	31.45	31.80	31.95	31.35	30.90	30.45	30.00	29.95	29.60	29.30

WTR YR 1979 MEAN 30.37 HIGH 28.90 LOW 31.95

413108084415300. Local number, WM-12.
LOCATION.--Lat 41°31'08", long 84°41'53", Hydrologic Unit 04100003, 1.7 mi (2.7 km) east of Blakeslee.
Owner: State of Ohio.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled test artesian well, diameter 10 in (0.25 m), depth 115 ft (35.1 m), cased to 115 ft (35.1 m), screened 85 ft to 115 ft (25.9 m to 35.1 m).
DATUM.--Altitude of land-surface datum is 830 ft (253 m), from topographic map. Measuring point: Floor of instrument shelter 1.50 ft (0.457 m) above land-surface datum.
PERIOD OF RECORD.--1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 10.56 ft (3.219 m) Feb. 6-7, 1977; minimum daily low, 4.94 ft (1.506 m) Mar. 24, 1978.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 10.34 ft (3.152 m) Oct. 17; minimum daily low, 6.63 ft (2.021 m) Apr. 14.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.17	10.25	10.09	9.58	9.92	9.41	7.37	8.35	9.04	9.10	9.96	8.74
2	10.18	10.20	10.14	9.35	9.93	9.29	7.04	8.30	9.07	9.13	9.61	8.85
3	10.11	10.19	10.03	9.32	9.86	8.98	7.18	8.12	9.03	9.17	9.36	8.95
4	10.16	10.17	9.71	9.36	9.93	8.41	7.16	8.06	9.04	9.24	9.26	9.02
5	10.16	10.13	9.75	9.38	9.94	7.85	7.22	7.95	9.11	9.30	9.30	9.04
6	10.19	10.21	9.93	9.27	9.89	7.35	7.54	7.77	9.17	9.30	9.24	9.11
7	10.23	10.20	9.90	9.29	9.88	6.81	7.58	7.84	9.22	9.37	9.28	9.26
8	10.26	10.20	9.73	9.43	9.99	7.07	7.44	8.00	9.31	9.38	9.37	9.33
9	10.23	10.18	9.69	9.52	10.02	7.17	6.95	8.13	9.33	9.37	9.38	9.35
10	10.21	10.23	9.80	9.61	10.01	7.37	6.99	8.19	9.32	9.40	9.30	9.36
11	10.15	10.27	9.79	9.62	10.00	7.58	6.94	8.33	9.39	9.48	9.26	9.43
12	10.19	10.28	9.77	9.54	10.00	7.77	6.73	8.39	9.44	9.51	9.34	9.43
13	10.23	10.22	9.81	9.48	10.01	7.74	6.54	8.43	9.49	9.54	9.38	9.41
14	10.24	10.23	9.82	9.75	9.94	7.99	6.53	8.48	9.48	9.60	9.54	9.52
15	10.22	10.23	9.80	9.79	9.93	8.12	6.30	8.62	9.49	9.68	9.50	9.56
16	10.33	10.22	9.82	9.75	10.17	8.12	6.97	8.70	9.51	9.76	9.56	9.61
17	10.34	10.09	9.94	9.68	10.18	8.16	7.17	8.71	9.55	9.79	9.62	9.60
18	10.25	10.16	9.90	9.81	10.04	8.14	7.38	8.69	9.65	9.80	9.39	9.60
19	10.17	10.21	9.86	9.77	10.02	8.13	7.53	8.68	9.68	9.83	9.04	9.69
20	10.18	10.21	9.75	9.53	9.97	8.13	7.55	8.75	9.65	9.87	8.86	9.64
21	10.18	10.16	9.90	9.61	9.99	8.21	7.92	8.89	9.57	9.88	7.92	9.69
22	10.21	10.11	9.93	9.82	10.03	8.20	7.98	8.93	9.58	9.90	7.71	9.79
23	10.28	9.99	9.98	9.77	9.91	8.07	8.04	8.89	9.68	9.94	7.89	9.92
24	10.26	10.09	9.86	9.66	9.89	8.10	8.05	8.93	9.74	9.94	8.14	9.81
25	10.07	10.10	9.97	9.84	9.78	8.35	8.01	8.86	9.79	9.88	8.38	9.82
26	10.21	10.07	10.06	9.83	9.66	8.54	8.04	8.70	9.77	9.89	8.46	9.85
27	10.21	10.01	10.11	9.78	9.67	8.65	8.11	8.74	9.76	9.90	8.55	9.83
28	10.31	10.16	10.10	9.82	9.61	8.62	8.24	8.83	9.78	9.94	8.60	9.77
29	10.33	10.12	10.05	9.88	---	8.34	8.26	8.87	9.71	9.99	8.70	9.82
30	10.27	10.12	9.99	9.87	---	8.00	8.31	8.94	9.47	9.98	8.70	9.84
31	10.22	---	9.98	9.84	---	7.64	---	8.98	---	9.95	8.72	---
MAX	10.34	10.28	10.14	9.88	10.18	9.41	8.31	8.98	9.79	9.99	9.96	9.85

WTR YR 1979 MEAN 9.29 HIGH 6.63 LOW 10.34

WYANDOT COUNTY

405009083172600. Local number, WY-1.
LOCATION.--Lat 40°50'09", long 83°17'26", Hydrologic Unit 04100011, State Rt 199, Upper Sandusky.
Owner: Karg Supply Co.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in (0.13 m), depth 90 ft (27.4 m), cased.
DATUM.--Altitude of land-surface datum is 850 ft (259 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--September 1951 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.90 ft (12.466 m) July 12, 15, 17, 21, Aug. 26, 1961; minimum daily low, 26.65 ft (8.123 m) Apr. 11, 1978.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 29.83 ft (9.092 m) Nov. 18; minimum daily low, 27.25 ft (8.306 m) Apr. 16.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.61	29.60	29.70	29.11	28.90	28.50	28.35	27.85	28.10	28.15	28.20	27.95
2	29.40	29.63	29.60	28.71	29.00	28.60	28.00	27.97	28.15	27.85	28.20	27.95
3	29.50	29.63	29.60	28.82	29.05	28.65	28.25	27.95	28.10	27.95	28.20	27.85
4	29.52	29.63	29.20	29.10	29.05	28.55	28.25	28.00	27.90	28.05	28.20	27.55
5	29.58	29.61	29.20	29.30	28.95	28.00	28.15	28.05	27.65	27.95	28.20	27.40
6	29.57	29.48	29.35	29.32	29.00	28.05	28.25	28.05	27.60	28.15	28.15	27.70
7	29.55	29.48	29.50	29.31	29.00	28.15	28.30	27.75	27.65	28.30	28.15	27.75
8	29.53	29.60	29.55	29.13	29.00	28.15	28.15	28.05	27.70	28.30	28.25	27.90
9	29.49	29.65	---	29.05	29.05	28.25	27.85	28.20	27.70	28.00	28.30	---
10	29.58	29.68	---	29.10	29.20	28.25	28.05	28.20	---	27.95	28.30	---
11	29.65	29.76	29.25	29.20	29.25	28.15	28.10	28.25	---	28.00	28.20	---
12	29.60	29.78	29.20	29.20	29.20	27.80	28.10	28.25	27.90	28.15	28.10	28.00
13	29.51	29.70	29.35	29.16	29.00	27.95	28.05	28.00	28.00	28.15	28.00	28.00
14	29.53	29.64	29.45	29.10	29.05	27.95	27.90	27.90	28.10	28.15	28.10	27.95
15	---	29.68	29.45	28.72	29.00	28.25	27.85	28.15	28.15	28.05	28.35	27.90
16	---	29.80	29.50	28.92	29.15	28.35	27.25	28.35	28.15	28.05	28.35	27.85
17	---	29.82	29.50	29.03	29.25	28.35	27.50	28.45	28.10	28.20	28.35	27.75
18	---	29.83	29.30	29.00	29.20	28.20	27.55	28.45	27.90	28.30	28.30	27.75
19	---	29.69	29.28	29.15	29.00	27.95	27.70	28.35	28.20	28.30	28.15	27.85
20	---	29.68	29.28	29.15	29.05	28.15	27.75	28.30	28.25	28.30	27.95	27.85
21	29.47	29.67	29.31	28.85	29.00	28.35	27.75	27.95	28.25	28.40	27.85	27.85
22	29.45	29.70	29.41	28.60	29.05	28.35	27.75	28.20	28.15	28.35	27.95	27.40
23	29.30	29.70	29.50	28.75	29.05	28.20	27.50	28.30	28.10	28.20	27.95	27.75
24	29.35	29.30	29.35	28.80	28.95	28.00	27.75	28.30	28.05	28.30	27.95	27.75
25	29.35	29.30	28.84	28.80	28.75	27.70	27.90	28.35	27.95	28.25	27.95	27.85
26	29.34	29.25	29.11	28.90	28.30	27.90	27.90	28.25	28.15	28.25	28.00	27.90
27	29.36	29.10	29.29	28.90	28.30	28.25	27.75	28.15	28.20	28.25	27.95	27.95
28	29.40	29.45	29.43	28.85	28.45	28.30	27.80	27.75	28.25	28.25	27.80	27.90
29	29.40	29.55	29.50	28.55	---	28.35	27.85	27.50	28.30	28.20	27.85	27.85
30	29.45	29.65	29.48	28.75	---	28.35	27.75	27.75	28.25	28.10	27.85	27.85
31	29.57	---	29.37	28.85	---	28.40	---	28.00	---	28.20	27.40	---
MAX	29.65	29.83	29.70	29.32	29.25	28.65	28.35	28.45	28.30	28.40	28.35	28.00

WTR YR 1979 MEAN 28.55 HIGH 27.25 LOW 29.83

CHEMICAL CHARACTERISTICS AND BIOLOGICAL INDICES OF SELECTED LAKES

The following table lists the lakes at which chemical and physical characteristics and biological indices were obtained during water year 1978. These lakes were sampled to evaluate current conditions and existing or potential problems, determine chemical and physical characteristics of inflow from major tributaries, and provide basic information for determining the necessity for more intensive studies where problems exist. The results of these studies may be obtained by writing to the District Chief, WRD, 975 West Third Avenue, Columbus, Ohio, 43212. The complete study will be available in a separate report to be published in the near future.

410135083340000	Findlay City Reservoir	Hancock County
410350082393000	Willard City Reservoir	Huron County

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^{2})
	4.047×10^{-1}	square hectometers (hm^{2})
	4.047×10^{-3}	square kilometers (km^{2})
square miles (mi^{2})	2.590×10^{0}	square kilometers (km^{2})
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^{3})
	3.785×10^{-3}	cubic meters (m^{3})
million gallons	3.785×10^{3}	cubic meters (m^{3})
	3.785×10^{-3}	cubic hectometers (hm^{3})
cubic feet (ft^{3})	2.832×10^{1}	cubic decimeters (dm^{3})
	2.832×10^{-2}	cubic meters (m^{3})
cfs-days	2.447×10^{3}	cubic meters (m^{3})
	2.447×10^{-3}	cubic hectometers (hm^{3})
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^{3})
	1.233×10^{-3}	cubic hectometers (hm^{3})
	1.233×10^{-6}	cubic kilometers (km^{3})
	Flow	
cubic feet per second (ft^{3}/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^{3}/s)
	2.832×10^{-2}	cubic meters per second (m^{3}/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^{3}/s)
	6.309×10^{-5}	cubic meters per second (m^{3}/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^{3}/s)
	4.381×10^{-2}	cubic meters per second (m^{3}/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons